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ABSTRACT

The articles in this collection present international perspectives on change and innovation in teacher education. It is divided into six topic areas. Part one offers views on the social and economic implications of teacher education. In part two the problems and challenges for reform in teacher education in East Africa, Poland, France, Italy, and the Federal Republic of Germany are considered. The third part deals with systemic reforms in the content, structure, and philosophy of teacher education in the Federal Republic of Germany, Belgium, and the United States. Part four contains discussions on the effectiveness of teacher education and innovations in curriculum, methodology, and organization in Denmark, Bulgaria, Czechoslovakia, Rumania, Russia, and Spain. The fifth part is concerned with innovative teacher education within the framework of current social realities in Thailand, Hungary, the German Democratic Republic, and, in the United States, the Temple-Philadelphia Portal School and West Virginia. In the final part, issues in inservice teacher education are addressed in three articles presenting viewpoints from the United Kingdom and Yugoslavia. (JD)

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INNOVATION NOW!

INTERNATIONAL PERSPECTIVES
ON
INNOVATION IN TEACHER EDUCATION

Editors

Frank H. Klassen
John L. Collier

INTERNATIONAL COUNCIL ON EDUCATION FOR TEACHING
One Dupont Circle, Washington, D.C. 20036 / USA
In cooperation with the financial and technical
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A number of articles contained in this volume, namely those on France, Belgium, Denmark, Czechoslovakia, Hungary, Romania, Bulgaria, the German Democratic Republic, and the Union of Soviet Socialist Republics, were commissioned by UNESCO for the 1972 ICET World Assembly. UNESCO accepts no responsibility for the facts set out in them or for the opinions expressed about those facts. In addition, all the papers have been substantially edited and the papers on Spain and Yugoslavia translated into English from Spanish and French respectively by the ICET Editor.

From the President's Pen

The 1972 World Assembly of the International Council on Education for Teaching accorded me the great honor last July of election to the position of President for ICET for the next three years. As I indicated to the members present in London, it is with gratitude and a deep sense of responsibility that I accept this honor, and I pledge to you my best efforts for leadership of the Council during the challenging years ahead.

I have been involved with ICET since its founding in 1953 and have known personally the many distinguished teacher educators from around the world who have given generously of their time and talent to the organization over the past nineteen years. It is from this perspective that I can state that the 1972 World Assembly was something of a milestone in the development of ICET. Those of you who can remember our earlier meetings, held in the midst of the WCOTP conference with a small group of members, will be pleased to learn that the Assembly in London met for nearly four days prior to the WCOTP conference and attracted more than 300 leading teacher educators from a wide range of countries. The deliberations and discussions which took place were of high quality, as was the level of the formal presentations, which are contained in edited form in the remainder of this volume. There was in London a genuine and exciting interest in the future organization and programs of the Council as demonstrated by the discussion and debate, both formal and informal, over the conference resolutions, constitutional amendments, and election of new officers, all summarized at the end of this report. Many participants left the 1972 World Assembly with a new sense of purpose and realization that much more progress in the global development of the profession is achievable through international cooperation and exchange.

For the success of the 1972 World Assembly, much credit is due certain individuals and institutions. I would be exceedingly remiss if I did not single out the very generous financial and technical support of UNESCO. So much is owed to the tireless work and spirit of David Johnston, both in 1972 and throughout his distinguished tenure in positions of leadership in ICET, that another volume of this size would be required to record our appreciation. It is comforting to note, and a great personal pleasure for me, that ICET will continue to benefit from the sagacity and energy of Mr. Johnston as he serves over the next three years in the newly established position of Immediate Past President. The host institutions, the Institute of Education, the University of London, and the Association of Teachers in Colleges and Departments of Education willingly provided everything necessary for the efficient conduct of the meetings, with the added fillip of an ambiance of gracious hospitality. Many thanks also due to the American Association of Colleges for Teacher Education and the nine American colleges and universities, listed elsewhere in this report, which provided a substantial and vital measure of financial support. The Executive Director of the Council, Frank Klassen, and his assistant, John Collier, are to be congratulated for their splended performance in managing and directing the operations of the Council during the past year.

In the final analysis, the success of any conference must be attributed to the quality of the speakers, discussion leaders and other participants who provide the essential intellectual and informational inputs into the various sessions. In this respect, ICET is fortunate: the serious and informed teacher educators who attended the 1972 World Assembly augur well for the future development and progress of the organization. It is the sustained support of individuals, institutions and organizations such as those present or represented in London on which the Council must rely if it is to move forward in its efforts to assist in the improvement of teacher education around the world. I know this support will be forthcoming, and I look forward to serving you as President in the exciting and challenging years ahead.

EDWARD C. POMEROY
President

Challenge And Innovation: International Perspectives

FRANK H. KLASSEN
Executive Director, International Council on Education for Teaching

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Program Associate, International Council on Education for Teaching

Two years ago the International Council on Education for Teaching launched a program for the seventies as a part of its fundamental purpose of assisting in the improvement of teacher education around the world. It was decided in 1970 that the Council would feature at its World Assemblies careful analyses of major social forces which affect the education of teachers and the variety of effective strategies and programs developed in response by individual teacher educators, institutions and national educational systems. In the first few years of the decade, the emphasis was directed toward the overall function of teacher education in its broad inter-relationships with society, while in latter years the focus was to be narrowed to the more specific and technical problems of the profession. Thus, in 1971, the ICET World Assembly, held in Kingston, Jamaica, was devoted to general social change and the corresponding responses of the profession; the 1972 Assembly concentrated on more specific challenges and related innovations; and the 1973 meeting, to be held in Nairobi, Kenya, will examine detailed strategies and techniques involved in teacher education as it fulfills its role in the development process. Of course, in all the many efforts of the Council, whether they be conferences, research or publications, there is always the necessity and practice of linking the macroscopic to the microscopic, the far-ranging philosophy to daily decision-making, and the fundamental goal to the specific objective.

It is well understood that neither the practices nor the theories involved in the preparation of educational personnel can be improved without the constant and careful examination and evaluation of each and their inter-relationships. This kind of fruitful examination was clearly present last July in London, where more than 300 teacher educators from around the world came together to participate in the 1972 ICET World Assembly. The proceedings of this Assembly, which was based on the theme, "Challenge and Innovation in Teacher Education," are summarized below and presented in edited form in the remainder of this volume.

Challenges to Teacher Education

Although much of the Assembly was devoted to the innovative responses of the profession, a number of the speakers and participants dealt briefly with the variety of new problems and pressures faced by teacher educators today. One of the pressures which was quickly identified is the burgeoning demand for educational facilities and personnel, a phenomenon of varying intensity and impact in different countries. Saverio Avveduto and Gino Speciale, citing the booming enrollment figures in Italy, label the situation as a "crisis of development"; Stanislas Krawcewicz, in a similar vein, refers to the "demographic explosion" in Poland; and W. Senteza Kajubi describes in vivid terms the enormous demand for formal education in East Africa. But the pressures felt by teacher educators are much more profound and complex than those expressed in terms of numbers of pupils, dollars or school buildings. The challenge in every country is also of a qualitative nature, not necessarily calling for more resources, but for a transformation, realignment and reorganization of the present use of resources. Ludovit Bakos observes that in Romania, "the *quantitative* emphasis in teacher training...is now giving place to a *qualitative* emphasis".

Even in those countries where available resources are not abundant, the challenge is as much for *transformation* as it is for *expansion* of the educational system. According to Kajubi, the "East African countries and indeed all countries of the developing world are faced with the formidable problem of devising educational systems and teacher education programs which are relevant to their national needs". Bhunthin Attagara concurs with Kajubi, stating that Thailand faces the difficult challenge of reorienting its system to focus much greater attention on the practical educational needs of rural areas. On the other hand, Italy's system of teacher education is confronted by the "upheavals of the major structural crisis which is the inevitable outcome of the change in the last twenty-five years from a predominantly agricultural economy to a predominantly industrial one". And Peter Mueller of West Germany reports that the traditional German educational system in the sixties "was definitely unable to cope with the educational needs of a developing economy and...unable to meet the new social and political demands" of the period.

The new social and political demands or "the radical changes in society and its mores," as Jean Mounolou of France terms it, are, in fact, a manifestation of the dominant characteristic of our era. More than one leading teacher educator made reference in London to the enormous demands made on the profession by the acceleration of social change which is occuring nearly everywhere in the world today. One result of this pervasive phenomenon has been the rapid obsolescence of knowledge, which Lord James of Rusholme illustrates by declaring that he would be unable to teach chemistry in a secondary school today because two-thirds of the requisite scientific knowledge *did not even exist* when he earned his advanced degree in the 1930's! Not only are developments and advances taking place at a much more rapid rate, but teachers are no longer the primary sources of information about them. A Belgian teacher educator, Madame de Vits, notes that teachers must be prepared now to help students "to *organize* the new knowledge pressed upon them by modern information media and to turn to good account all the resources available in their environment which, in these days, is rich in stimuli no matter how humble it may be." A third distinguished teacher educator, George Dickson of the United States, lists several other aspects of the impact of rapid social change on the profession, concluding that "there is really no longer any way to hide from the forces which are pushing and pulling the teacher education profession toward drastic change".

Innovations in Teacher Education

What changes, drastic or otherwise, are taking place in the profession? In what directions and areas are innovative responses being made? In the area of organization and articulation, two major trends are prominent: the level of education for teachers is steadily being raised while a clear effort is concurrently underway to integrate and unify the educational patterns and programs for teachers of the various levels and specializations. France, Denmark, the Soviet Union, and Yugoslavia all report recent reforms which raised teacher training for primary teachers to the level of higher education, or extended the duration of it at that level. Of more complexity is the movement to unify the training of all teachers and to integrate this process with all the institutions and agencies involved. Nearly every national system represented in London has some kind of reorganization in this direction either underway or planned. In West Germany, for example, a major effort is underway to replace the previous pattern in which the various types of teachers received training which varied widely in "duration, content, areas of concentration and underlying pedagogic ideals" with an *integrated* system featuring "a single pathway which is equivalent in its scientific foundation for all groups of teachers". In Yugoslavia and Romania, efforts are underway to strengthen the ties between teacher education and the universities; in Italy, the planned development of the comprehensive secondary school, as in West Germany, is providing an important impetus toward the integration and unification of its teacher education system.

The movement for better articulation is paralleled in several systems by trends toward enhanced cooperation between all the institutions and political forces involved in the preparation of educational personnel. The performanced-based teacher education (PBTE) movement in the United States, as described by George Dickson, features a "multi-institutional pattern" in which teacher education is the "business of not just colleges but also public schools, involved educational and governmental agencies, educational industries, educational professional organizations, teacher education students, and the community where teacher education activity takes place". One concrete example of this cooperative trend in the United States is provided by the description of the operation of the Multi-Institutional Teacher Education Center in West Virginia. In India, the sixties witnessed a major breakthrough at the national level when teacher education achieved independent status in the financial allocations of the Fourth Plan as well as several new cooperative arrangements within each state for research and development of the profession. One outstanding feature of the current reform in West Germany is the growing trend toward federal unification of the structure and organization of teacher education, although the division of rights and responsibilities among the government at all levels, the teacher training institutions, and the public schools remains a difficult problem to solve.

Related to the increased integration of the educational pattern for teacher education and the steps toward greater overall coordination of the professional activities are the new efforts to relate the preparation of teachers more closely to the social contexts in which they will teach. In Thailand, for example, a major effort has been underway for several years utilizing various innovative techniques and practical experiences in rural areas to develop teachers who are both competent and motivated to "carry out the double role of educator and community leader". A similar effort toward a "ruralization of the curriculum of teacher education institutions" is underway in East Africa and India is also working to enhance the linkages between urban teachers colleges and rural schools. In other countries, the more challenging social context lies in the inner cities and industrial milieux. One of the more innovative urban oriented teacher education programs in the United States is the Portal School concept which simultaneously upgrades a disadvantaged public school through a concentration of the university's resources in it and provides a much more realistic and applicable practical training for the student teacher. Another interesting innovation in this direction is the requirement in Hungary for pre-primary teachers to perform four to six hours of physical work each day for a two-week period to familiarize the students, not only with the social and cultural lives of workers, but also with the significance of daily labor in the creation of social values. The effort to link the preparation of the teacher with the reality of the milieu in which he will eventually function is also evident in the clear trend in several countries, notably Denmark, East Germany, and Hungary, toward practice teaching periods of increased duration and enhanced realism.

In addition to improvement of the critical practical component, a wide range of curricular and methodological innovations are being implemented as well. In Bulgaria and Romania, considerable emphasis is now being placed on requiring prospective teachers to conduct useful educational research as an effective method of developing independent and creative thinking. In Spain, the University of Santiago is utilizing the concepts of micro-teaching, interaction analysis and non-verbal communication to enable prospective teachers to better understand and conduct the actual process of teaching. In both Belgium and India, small groups are utilized extensively in several establishments as a means of personalizing the program and utilizing the technique of peer teaching. Several of the leading teacher educators in London also described the recent introduction of new courses for prospective teachers. In the Soviet Union, for example, an optional subject, the *scientific organization of educational work*, is now available to better prepare teachers to face the challenge of decreased responsibilities as sources of information and increased duties as organizers of the educational process. Czechoslovakia is experimenting with a new course, *communication skills*, designed to enhance the nature of the contact between the teacher and the pupil. S.N. Mukerji reports that the number of inter-disciplinary courses is rapidly increasing in India, a trend which George Dickson suggests is inherent in the performance-based teacher education movement in the United States.

The PBTE movement is a good example of an innovation which may be categorized as a new philosophy or orientation in the education of teachers which suffuses the entire process. PBTE calls for a total and systemic transformation of the process based on the concept of *systems analysis*, a technique employed in industry, as one of the opening speakers in London, W. Clement Stone, indicated. In a number of countries there is a growing awareness that the unifying element in any national pattern of teacher education is the professional component. "All teachers are teachers," and Denmark, Yugoslavia and West Germany are focusing on the essential pedagogical elements involved in the preparation of all teachers, a trend which may be viewed as the philosophical counterpart to the organizational unification of teacher education. In East Germany, the concept of *scientific-productive training*, a theoretical and practical combination of socialist education with modern scientific training, is being systematically introduced into the curricula and methods of all higher education establishments. Several other systems, in response to the challenges outlined above, are moving toward an increased emphasis on self-education and the development in teachers of flexibility or "elasticity" as Stanislas Krawcewicz terms it in reference to Poland's new orientation. In Belgium, a number of participatory and democratic practices are increasingly being employed by the teacher training institutions to produce teachers who will retain throughout their careers "an open-minded willingness to experiment and explore in the search for better methods and techniques". One of the two major principles guiding the sweeping revision of Denmark's teacher education program is the awareness that pre-service mastery of a subject is not enough and that it is equally important that student teachers learn "to educate themselves so that after they have completed their training, they can further develop and supplement their academic and professional knowledge in step with the development of the sciences and education".

The logical step from the growing self-education orientation in pre-service programs is to the increased emphasis on in-service teacher education. Lord James stresses that "the most important conclusion" of the James Committee is that "an entirely new scope and emphasis must be given to in-service training". Nearly every other teacher educator present at the World Assembly listed new developments in this aspect of the profession. In France, the pressure of the teachers union has resulted in an agreement, reached in early 1972, which entitles each teacher to an additional year of in-service education during his career. In the United Kingdom, one of the most significant innovations in this area is the operation of the Open University which utilizes modern technology, television and radio, to provide a wide range of courses for teachers and other adults. Modern informational media are also utilized for in-service teacher education in Belgium and plans are underway for a similar program in Poland commencing in 1973.

One final means of meeting the challenges to the profession was also stressed in London. Improvement in the preparation of educational personnel is given considerable stimulus from the exchange of ideas and techniques across national and continental boundaries. Several educators stressed the key role that ICET can and should play in the remainder of this decade in helping to facilitate this exchange. In nearly every country there is some type of professional organization at a national level to which teacher educators belong, and several speakers, particularly those from Europe, referred to the valuable assistance provided by these organizations in raising the competence and status of the profession. It is an extension of these kinds of activities, to a global scale, that numerous participants urged for the Council. In 1973, ICET will celebrate the twentieth year of its founding. The World Assembly, to be held in Nairobi, Kenya, from July 24-27 will provide a significant opportunity to forge even closer links among the nations of the world leading to a global community of teacher educators.

News of Teacher Education in Japan

On July 3, 1972, the Council for Teacher Education submitted its report to the Minister of Education recommending measures for improving the present teacher education system in Japan. Among the major recommendations of the Council are: (1) to increase the pedagogical and other professional requirements for prospective teachers in pre-service programs at the colleges and universities; (2) to provide additional programs and resources for recruiting into teaching persons who were not trained for the profession in colleges; and (3) to establish post-graduate programs and courses for the in-service training of practicing teachers.

News of Teacher Education in the West Indies

A new School of Education has recently been created in the University of the West Indies through the fusion of the previous Department of Education and Institute of Education. By October, 1972, only the new Dean of the School, Dr. Reginald Murray (an ICET member and speaker at the 1971 World Assembly), had been appointed, but other staff members will be named shortly in the new arrangement which is expected to enable the University to utilize its resources more efficiently. New courses are also planned as a result of the new arrangement in the Caribbean territories served by the University. One example is the planned In-Service Diploma in Education, to be available in Barbados and Trinidad by 1973, which will provide graduates with an opportunity for on-the-job in-service training.

I

CHALLENGE AND INNOVATION IN TEACHER EDUCATION

EDUCATION AS A SOCIAL AND ECONOMIC INVESTMENT

W. CLEMENT STONE
Chairman and Chief Executive Officer
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The International Council on Education for Teaching was formed in Oxford, England in 1953 by an international group of educators from colleges and universities who sought to improve the quality of teacher education and to promote international understanding through the exchange of ideas on a multinational basis. The United Kingdom, the host nation for the 1972 ICET World Assembly, has for hundreds of years been a true crossroads of the world in the spawning of new ideas, institutions, and movements which have encircled the globe; and most certainly her educational institutions have been at the forefront of this enviable record of leadership. Today ICET is a world-wide, private, voluntary association of organizations, institutions and individuals dedicated to the improvement of teacher education. The Council has taken its place among the uniquely promising movements which can truly make the world a better place for this and future generations. The preparation of high quality teachers and other educational personnel to meet the challenge of the times, the challenge of change, by sharing with each other, successful, innovative programs and the fundamental principles on which they operate, is a vital component of the strategy that will be used to improve the quality of education and the development of the true riches of life for the many millions whose future depends on the education they will receive. Thus, the International Council on Education for Teaching is a coordinating body whose purpose is to tap human resources represented in the world community of nations for a united attack on the problems of educational deficiencies.

The 1972 World Assembly has come at a particularly propitious time in world history. Recent initiatives by President Nixon to link the United States more closely with all nations of the world augers well. The encouragement of these initiatives to work together toward the resolution of common problems has given to the rest of the world the incentive to open new doors for international cooperation, harmony and a generation of peace. Our basic objective would then seem to be to develop and produce a cooperative attack on the opportunities and problems of world society through education, as one partner among a number of social institutions, economic, political, technological, which are also now actively involved in the effort. However, it is the process of education as the pre-eminent social and economic force which is the key to positive mental attitudes and motivations that spring from within the individual and bring about needed and hoped-for changes in the human condition.

I want to share my thoughts and ideas with you in three parts, and let me say that my choice of material comes from my experience and involvements in the process of education on a number of fronts. The first is a world-wide polycultural effort with which I have been involved for some years. The second has to do with programs inside, or which are launched within the classroom as formal educational programs. The third area in which I want to comment is essentially non-classroom centered education.

Polycultural Education

In 1966 a small group of educators and businessmen came together in Washington, D.C., to establish an organization known as The Bridge, A Center for the Advancement of Intercultural Studies. These persons felt very strongly that a massive attempt should be undertaken to emphasize to all people the essential oneness of man. The education (or perhaps equally necessary, the re-education) of all teachers in international understanding was regarded as the single most crucial need. From this thoughtful beginning, the organization was incorporated in 1966, in Warrenton, Virginia, with the following goals:

1. To establish institutions of learning based upon the concept that by effective study of the cultures of the world international understanding may be fostered and bridges may be built between regions, cultures and people.
2. To engage in educational and scientific research and to disseminate the results of such research.
3. To experiment in the development of new methods of teaching in order to make the educational process more effective.

Within a year following its founding, The Bridge headquarters was moved to the Stone-Brandel Center in Chicago, although the organization continued for some time to maintain a Washington, D.C., area office. It was my privilege to be elected Chairman of the Board and President of The Bridge on October 5, 1967, a post I am privileged to fill today.

The Bridge is my personal example of how an organization with a global perspective can serve the needs and interests of education at all levels in a most effective manner. To begin with, The Bridge immediately attracted into its membership and active support distinguished educators, businessmen and government leaders from throughout the United States and beyond. Our activities evolved from conferences and forums participated in by leaders from all walks of national and world life. Funds came from the Hattie M. Strong Foundation, from the W. Clement and Jessie V. Stone Foundation and from one of our truly distinguished founders, Mr. Henry Berne of Washington, D.C.

Since our inception we have sponsored and co-sponsored a series of conferences in various parts of United States. The subject matter of these conferences has ranged from the need for the formation of a human community, opportunities in intercultural education, polycultural education problems and intercultural youth movements, to visual symbols as a universal language. At one conference alone, which we held in Chicago in 1968 in joint sponsorship with the Council for the Study of Mankind and under the brilliant guidance of Dr. Sol Tax of the University of Chicago, representatives of every major culture of the world were in attendance. Some 42 delegates came from abroad and approximately 10 other persons from foreign nations who were at that time resident in the United States attended and participated in this five-day conference in addition to a large United States delegation.

It became quite apparent rather soon after the convening of the conference that education would become the single focus of interest and attention of all the delegates. In fact, as the week progressed, an urgency seized the participants. Each person seemed to reflect a need to develop concrete suggestions, practical methods, and programs for research at all levels of education, from pre-school to adult education. I think you will be interested in the following observations which were accepted as guides for discussion:

1. The concept of "culture" is the most meaningful context for organizing education and knowledge to handle the relations of peoples.
2. Formal education has a poor record in changing values.
3. Much deception and misrepresentation about alien cultures appears in national mass media and textbooks.
4. Education makes little effort to contemplate the future and therefore has few goals and little hope.
5. There is a definite lack of teaching materials for the study of mankind.
6. Blind patriotism must be overcome to achieve education for human understanding.
7. Such an education must give special attention to economic and political issues which divide peoples.

The conference concluded with a strong expression that intercultural empathy was an achievable goal. In addition, there was a general feeling that the very survival of mankind was in danger and that education had not begun to fulfill its potential in resolving some of the problems involved. Although many of the conferees were pessimistic, others felt that hope was justified if interest in education for human understanding between cultures could be stimulated.

I also want to comment on our Occasional Paper Series which we started in late 1969 and which continues to be one of the active programs of The Bridge. The subjects covered by the series have ranged from, "The Promotion of Understanding Among People" by Takdir Alisjahbana, Rector of Universitas National in Djakarta, Indonesia, through a fascinating variety of international and polycultural subjects to our most recent publication, number eleven, which deals with "Culture: A Perceptual Approach" by Marshall Singer, Professor at The Graduate School of Public and International Affairs, University of Pittsburgh.

We have adopted from our conference activities at The Bridge, a number of generalizations, many of which are empirically testable and which bear directly upon the observations and goals of ICET. Let me just share four of them with you in the hope that they will stimulate your own thinking:

1. *Ecological conditions influence social structures and value systems in all cultures.*
2. *Technological change inevitably produces change elsewhere in a culture. Pre-industrial cultures must be given an opportunity to adapt to such changes, although compulsion must be avoided.*
3. *Groups with strong cultural roots adapt better to change than others.*
4. *An operable principle for inducing change in minorities with a minimum of tension would be to combine pride in one's group with pride in the achievements of the total society.*

Formal Educational Programs

Let me now turn to formal educational programs, essentially inside the classroom. It has been my privilege over a number of years to be associated with distinguished educators and colleagues who have produced and developed a number of innovations in formal education throughout the educational structure of the United States. In 1970-71, one of my organizations was approached by the Greenville, South Carolina, Public School System and, as a result, we developed an Educational and Motivational Reading Program during that year. We discovered, for example, that between 15% and 20% of the student population had serious physical disabilities including hunger, infectious mononucleosis, skin rashes, body bruises from beatings by parents and various eye problems. In our efforts to assist these students, we referred them to the school system's health service, but this was a very ineffectual program since there were only two nurses for 54,000 students. We then referred them to the welfare service of the public hospital. At first it took six weeks for one of the students to be seen, but through diligent effort this was ultimately reduced to one day. As a result of our program at the Greenville, South Carolina, Public School System, we were able to register the following results:

1. The students in this project gained twice as much in reading compared to the highest group in the school.
2. They gained twice as much as a comparable program operated by master teachers on a ratio of one teacher to six students. Incidentally, this program was operated primarily by housewives who were paraprofessionals, persons usually not having completed certification requirements, yet skilled so that they are able to work along with the professional teacher, freeing the teacher to focus on areas of greatest need.
3. The achievement of this student group in reading and comprehension was double that of the counterpart group in any previous year.

During the academic year of 1970-71, the Austin College Teacher Education Program was selected as one of the five outstanding programs in the United States by the American Association of Colleges for Teacher Education, itself a parent organization of ICET. A number of my associates and the educational leaders of Austin College used funds provided by the W. Clement and Jessie V. Stone Foundation to develop the following program which led to the Distinguished Achievement Award:

1. The teaching program was based on behavorial objectives and, therefore, could be evaluated.
2. It was individualized, enabling each student to progress at his own pace.
3. The student's learning was defined by a contract negotiated between the student and the professor.
4. The faculty had changed from the traditional teaching role of lecturing to that of learning managers, those who conduct educational affairs in a manner which enables each student to make the greatest learning gains with the resources available. Such learning management frequently uses individualized instruction and peer teaching peer.
5. The entire program was laboratory based, combining all three steps of my positive mental attitude philosophy, namely, *Inspiration to Action, Know-How* and *Activity Knowledge.*

6. Students were inspired to learn primarily through the use of positive attitude reinforcements.

This program used as its basis many of the Positive Mental Attitude concepts.

Trinity College at Deerfield, Illinois is a four year church-related college with approximately 60% of its graduates entering the teaching profession. With the aid of professional personnel and a grant of funds from the W. Clement and Jessie V. Stone Foundation, a program called "PACESETTERS" was established in 1968, which took high risk students from the inner-city. The Educational Testing Service predicted a 17% survival of the first group of 36. Using Positive Mental Attitude concepts as a crucial element in their training, 93% survived the school year with 50% making "C" or better in all subjects. Some side effects were that those who did leave school were not ashamed, but realized that the liberal arts college was not where they could best use their abilities. They could now transfer to other training programs with their heads held high because they understood the best way to use their potential.

California State University at San Francisco, also a recipient of a grant from the W. Clement and Jessie V. Stone Foundation, through motivation and clerical training made it possible for persons who had been on welfare and unable to hold jobs to become economically self-sufficient. They lacked motivation. After the program, many individuals have remained on the job for three to four years. One unusual point of this program which I cite for your special consideration is that this program started as an activity funded by the private sector of the economy. Due to its success and impact in the San Francisco area, it has now been picked up and is supported by the public sector, specifically the city government. This flow of ideas and programs from the private to the public sector in increasingly in evidence in the United States.

Educational Innovations, Essentially Outside The Classroom

The third item I wish to discuss concerns the very many innovations in education in the United States of quite recent development and essentially outside the classroom. I want to share with you a few excellent examples provided by The Honorable Mary Conway Kohler, a distinguished jurist and authority on youth who currently serves by presidential appointment as Executive Director of the National Commission on Resources for Youth. The National Commission on Resources for Youth was founded just four years ago by a group of scientists and businessmen who sought to develop innovative programs that would give young people a role in society, not as *consumers* but as *participants.* The Commission is funded primarily with contracts from the United States Office of Education; the U.S. Office of Child Development; and the U.S. Department of Labor. Its early acceptance across the nation, and its success to date in providing a variety of so-called *Alternative Schools* containing innovative educational practices which can be and are being adapted in other schools, is a testimony to the strong backing received to date from our national administration under the leadership of Dr. Sidney P. Marland, Jr., U.S. Commissioner of Education, and to the leadership of persons such as Judge Kohler.

At the outset the Commission learned much from the work of the Community Voluntary Service in England, headed by Mr. Alec Dickson, and headquartered at Poynbee Hall, London. Many of you may know that Mr. Dickson's operation in foreign nations was the forerunner of the American Peace Corps. In addition, during their early visit to Russia, the Commission members were particularly impressed with the fact that almost every child in the schools they visited in the large cities had some participatory role in service to his fellowmen. For example, little fourth grade children made toys used in the nurseries. Older children made equipment used in scientific endeavors in the universities. School personnel told members of the Commission that they wanted their children to feel, from the early years, that they had a stake in the betterment of the community in which they lived.

Judge Kohler cites some of the imperatives for action in the United States in this entire area of educational innovation. For example, between 1961 and 1971 the population of 16 to 19 year olds increased by 4.5 million to 15.1 million. The number of teenagers in school, however, increased by an even greater proportion from 6.5 million to 10.7 million. In addition, in the United States, schools down through the years have served as a screening out process. However, this does not fit in a technological age, which has certain built-in handicaps for young people. For example, early work experience or the lack of early work experience becomes a serious problem for the teenage youth in the labor market. Furthermore, in good or in bad times, teenage unemployment is several times the rate of unemployment for adult workers, although this has a certain ameliorating effect in keeping teenagers in school longer. Encouragingly, by October, 1971, approximately 70 per cent of both white and black teenagers (16 to 19 years old) were enrolled in school. Judge Kohler gives a third handicap of our technological age, namely, the removal of some of the awareness of children to work or career opportunities as they grow up.

As to the programs and activities of the National Commission on Resources for Youth in this brief four-year period, Mrs. Kohler points out that one *easy* breakthrough has been in the area of peer teaching. This started as an experiment with underachievers in ghetto schools, because research had shown through the years that one learns by teaching. The old adage was applied: He who teaches learns. Today the program has grown to the point where it is taking place in some 450 school systems in the nation, which means thousands of individual schools. The Commission's research shows that both the tutor and the tutee gain academically to a far greater degree than through regular schooling. This is due to the responsibility which the tutor assumes and which causes him to explore learning in order to be able to teach. In addition, the Commission is presently initiating programs where fourteen and fifteen-year old students work in Day Care Centers caring for younger children as part of a course in "parenting" or child development. The Commission has in its files over six hundred examples of programs where young people operate projects for community betterment In some cases they adopt a grandparent, an elderly person in an old age home. In other cases they help overcome health hazards to children. For instance, in the lead poisoning project, the problem grew out of instances where small children became the victims of lead poisoning as a result of having sampled plaster or paint in old housing in the ghetto. This project alone now incorporates various ages of young people in dozens of American cities. Frequently, college students supervise teenagers who visit the homes, take samples of the plaster and paint and, if it contains lead, arrange for the health authorities to visit these homes.

In other communities, the Commission's work has been through young people who want to preserve the archaeological artifacts of the vicinity. These young people dig as part of their course in archaeology. In four counties in Southern Georgia, young people are the only force at this time for the preservation of a 5000 year old culture. They move just ahead of the bulldozers to preserve what the American Indians had developed before the white man came to America.

Currently, too, the Commission is working with organizations such as the Secondary School Principals Association in trying to secure changes in the high school curriculum to include this type of participation as part of the course work of the school. For example, at the Denver Manual High School a work-study program in which all students in their last two years have the opportunity to work in various career exploration programs has been tremendously successful. A boy who wishes to become a doctor is permitted to spend half his time in the medical center at the University doing various types of work. A girl wishing to go into teaching or early childhood education works in a day care center. Young people in this program in Denver may learn the building trade through the formation of corporations within the school which they operate under the guidance of a teacher. They have a corporation for the building of a house, with labor unions providing technical assistance. Last year they built a five bedroom home and sold it. Some of these young people overcame the objections of residents in one area to the demolition of sub-standard housing.

In Philadelphia, the so-called Parkway Program offers a secondary education that encompasses the entire community. There is no school building as such. Classes meet in museums, television and radio stations, at business firms, and in social service organizations. Students in this program are offered a wide range of studies and may choose courses including law enforcement, computers, and film making; these courses are often taught by practitioners from within the community. Of course these students also take the basic requirements, including English, history, mathematics and science; but with this background they are able to take whatever they choose and the school department obtains a place in which each student may work. In Berkeley, California, an exciting variety of educational options are being developed. For instance, they now have twenty-four alternative or mini-schools in a comprehensive kindergarten through 12th grade program. They have included multicultural centers operating three separate schools, one in Asian studies, one in multicultural studies, and on called *La Raza*, a bilingual program.

Finally, in Minneapolis, they have a four-part program of educational alternatives under the federally funded experimental school program. Students and parents at the elementary level may select:

1. *The contemporary school* which incorporates some new practices but basically offers a teacher director and structured curriculum and school organization by regular grade areas;
2. *Continual process program*, which means each child can advance at his own rate through a carefully sequenced curriculum of basic skills;
3. *Open school*, which has a very flexible curriculum in scheduling and grouping in which affective learning is emphasized much more than cognitive learning;
4. *The free school*. This is kindergarten through twelfth grade where the curriculum is developed by teachers and students together based upon what they wish to learn. There are no required classes and no divisions between elementary and secondary students. Students in this program also study in a variety of skill centers or each is free to pursue elective study in areas of individual interest, somewhat akin to the Parkway School program in Philadelphia noted earlier.

While Judge Kohler is very pleased to note that all of these programs have received favorable rulings from appellate courts, she is also quick to point out that not all of these innovative programs are operating well in all schools. She has told me that the Commission finds that the crucial unit for change and acceptance of innovation is not a school system but an individual teacher or an individual school. Furthermore, she indicates that the principal is the key to change. In looking ahead, Judge Kohler notes that alternative schools are springing up all over the United States and, although all they are doing is not necessarily good and truly innovative, they give promise of significant innovation in the educational process, innovation which can be adapted in other schools throughout the nation and perhaps throughout the world.

Summary

In summary, then, let me address myself briefly to the task with which we must all be concerned, namely, motivating the student. Before we do anything else, we must identify the student's curiosity, his spontaneous, natural craving. That curiosity is something of the man within. We must provide nourishment for that insatiable appetite that is curiosity. David Krech, a psychologist at the University of California, has said that in certain kinds of learning situations there are actually organic changes taking place in the brain, that the student who has nothing to do, nothing to satisfy and challenge his natural curiosity, actually declines mentally. If this is true, and we have a sound basis for believing that it is, how heavy, how important a responsibility is that of the teacher. The teacher's charge is to preserve and nourish the most marvelous instrument in the universe – the human brain. Let us hope that teachers no longer live in an ivory tower, that they are willing to help the student, that they seek interdisciplinary feedback from associates pertaining to their experience, that they move in a positive, creative way toward problem solving, that they look for support systems that will develop and challenge all potentials, that they seek community involvement, and in general strive to advance the man within himself.

Now, an overview, in brief, of some of the characteristics of our time that have an inescapable effect upon what we teach and what we learn. It seems to me that we are facing the most monumental age of all. We cannot ignore the tremendous changes in economic and social status. There is, for example, a shift in the economy that represents change of emphasis from product to service. Working people in the future, the vast majority of them, will be producing services rather than products. Statistically, in the United States, in less than a decade, seven out of ten working people will be involved in services. We are facing monumental change in our very physical environment. Our need for the city, as such, is diminishing. New suburban areas are proliferating, and advanced communications are eliminating those advantages once inherent in the city structure.

As esteemed educators, concerned with far more than I have mentioned here, you are better able than I to define the many needs created by changes in our socio-economic perspective. It seems to me that some of the changes will involve education in the task of developing a diagnostic system whereby we can identify skills already acquired by the student, and then move, without delay, toward the exercise of individualized instruction at a high level of achievement. To aid in this task, the maximum use of audio-visual and technological aids to education must be fully achieved. William J. Connelly, Manager of Exhibits in Union Carbide's Public Relations Department, and Past President of the Industrial Audio-Visual Association, tells us that people remember 20% of what they hear; 30% of what they see; 50% of what they *see and hear;* 70% of what they say; and 90% of what they *say and do.*

I have learned, through my involvement in commerce and industry, that a systems-management approach is efficacious. Perhaps this applies to education as well. Why not determine the expected results, the student's ultimate goals, and then match his resources, and yours, that are available for accomplishment? In other words, a designed approach. A world-wide program such as ICET may be required in the development of these needed new approaches. Responsibility management is as pertinent to education as it is to industry. All resources must be reallocated. And above all, everything must function in a way that takes into account the tremendous new emphasis on valued human resources in a service economy. Traditionally, the individual has identified the job or role he had to take in life before he decided on his personal image. Now, this has to be reversed, so that the individual knows what he is, or wants to be, first of all, and then looks for a role to fit that image. New educational programs must be individualized according to the need of the student. The student must not be faced with simply what is available to him in the structure of the prevailing system. It is a question of what *he needs,* and what *can be made available* to fulfill his needs.

Other cultural characteristics, if we may call them that, are taking shape in our society. This is a time when the for-profit and not-for-profit sectors of society must develop new trust and new respect for each other. I do not favor the view that profit is not a good or justified goal. Neither do I subscribe to the notion that someone who doesn't make money is irresponsible. The profit and not-for-profit mentalities must find a unifying goal, a common effort, a common objective. Education, without question, is the key to that unification. In my own nation and, I suspect, possibly in yours, the educational community is being called upon to provide increased accountability to its many and varied constituencies for financial support received, both from public and private sources. This trend seems certain to continue and even to accelerate in the future. At the same time there is a flow of educators into positions of influence at the highest levels of government. In my country we sometimes refer to these persons as "eggheads," but they certainly have a tremendous influence in policy-making and program direction in government. I wonder if ICET could not and should not work as an association through persons in each and every nation represented in its membership in order to bring your programs, needs, and activities to the attention of national leaders; to interpret your objectives effectively to heads of government and chiefs of state by those who fully understand the process of education; and to provide an immediate and direct sounding board for the future with those whom we elect to represent us and to lead us through these very promising, exciting, challenging days and years ahead.

Traditional problem solving procedures have to be carefully re-examined. Construction of a building, the painting of a work of art, the education of a child – none of these can be dictated solely on the basis of economic standards. We need a human commitment to problem solution, and we have to bear in mind that money alone is not always the effective means to a worthwhile solution.

The overriding theme to which we must direct our efforts is that universal factor of change. It is the only thing in our experience that does not, in itself, change. Change is inevitable, and we are all involved with it and affected by it. You cannot be indifferent to it without endangering your very stability. As Joseph Addison said, "When men are easy in their circumstances, they are naturally enemies to change." History is made through change. Man himself evolves and advances through change. The human mind and human behavior are in a constant state of change. An individual today has no choice as to whether or not he *will* change. His choice is only about *who* will *control* and *direct* that change. And this is where the role of the educator is vital.

In concluding, I would like to pass on a few reflections of great men on the subject with which we are concerned. Robert Hutchins said, "The object of education is to prepare the young to educate themselves throughout their lives." But I rather favor that marvelous statement of that son of England, John Ruskin, when he said:

> *"The entire object of true education is to make people not merely do the right things, but enjoy them – not merely industrious, but to love industry – not merely learned, but to love knowledge – not merely pure, but to love purity – not merely just, but to hunger and thirst after justice."*

CHALLENGE AND INNOVATION IN TEACHER EDUCATION

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Those engaged in the preparation of teachers assume a task far more awesome than those of any other profession. We face the need to educate a citizenry whose drives are shaped by a world environment which threatens to deny them their humanity. At the same time we must somehow educate them to return to their various environments as enlightened change agents with the power and commitment to inspire and teach others. This burden becomes more complicated as man's technological capacities make the world community smaller and as the rapidity of change so overwhelms us that total bodies of knowledge and skills become obsolete in less than a life time. The challenge in teacher education, therefore, appears as a grand superman delusion. How do you prepare in a short period of time an individual who must understand this complex world community, who must not only be able to grapple with its forces himself, but must go further to train young minds and hearts how to be adaptive and creative? I am not sure that the true and real mandate which faces us has been grasped by society at large. We are not simply preparing other persons to take a job, to become members of the skilled manpower pool. We are part of a cause and mission. In education we have the most potent force available to break the cycle of poverty which afflicts the urban and rural poor throughout the world.

We cannot approach the subject of challenge and innovation in teacher education without briefly focusing upon the emerging new directions in higher education generally. I submit that several years from today, in many countries, especially the United States, the academy which we now know will cease to exist; we will change our character and our methods. To understand the directions in which higher education may move, we must reflect upon the disillusions and disappointments which affect us today.

A typical citizen invariably thinks of education in terms of an institution–a place or geographical fixture where students within fixed age groups go to sit and listen to lectures delivered by a fixed faculty, take notes and exams, receive grades, accumulate credits and at the end of a fixed predetermined time period receive a diploma or degree. They then leave to enter the world of work, confident that they have been educated, but in many instances lacking the skills to be learners the remainder of their lives. Underlying the whole of this process are the assumptions that everything has to be taught instead of learned, that if the student has not had a formal course in it, he has not learned it; and that time spent is the only valid basis upon which a person can receive a degree.

It is sad enough for these delusions to exist among those who enter the conventional world of work. But they are intolerable for those whose life responsibilities include teaching and inspiring others. We know now that this process and these assumptions are not sacred and inviolate. We are aware that all people do not learn well in the same setting, using the same method and at the same rate of speed. It is clear that boredom, fear, and confusion about values are powerful negative forces which must be overcome if students are to grow and learn. In short, we can no longer content ourselves to be self-contained, closed and self-serving bureaucracies with limited constituencies to whom we relate in unalterably fixed modes.

The academy of the future must seek a mission as an investor in people. It must not limit its services to the 18-22 year-old, but must deliver educational services to all who choose to benefit whether they be at home, at work or even in prison, through internships, independent study and field experience, within new defined knowledge areas, at one or more colleges and in travel and service in other countries. The faculty will include not just a formally certified group, but all persons whose inputs and experiences can contribute to the educational process. Students will no longer be required to march lock-step through high school and college, but will be given flexible opportunities to move at their own pace so that students who learn and mature faster than others may accelerate their development. Self-directed learning will accomplish the long sought after objective of producing life-long learners.

These new directions in higher education have specific relevance for the preparation of teachers. It is against this background that we must deliberate about the challenges and innovations in teacher education and the five broad imperatives which command our attention:

1. We must develop a true professional class of teachers and teacher educators.
2. We must openly promote instructional innovations and insist upon an attitude which explores better ways to teach and learn.
3. We must seek cooperative planning with all the persons, groups and agencies which have a stake in the preparation of teachers.
4. We must develop effective *strategies* for the introduction and implementation of change and innovation in our colleges and school systems.
5. We must create a research and development base for assessment and evaluation.

Professional Teachers And Teacher Educators

We must be initially concerned about upgrading the quality of teachers by increasing the attractiveness of teaching as a profession. We must eliminate it as a "mattress curriculum," something for students to fall back upon if other employment opportunities are in short supply. We must be concerned to keep out the uncommitted and to bring in the sensitive student who has ability and truly wishes to teach because he or she loves children and is devoted to their personal development.

We have had a tendency in the past to undervalue the preparation of teachers. At least in America there has been a kind of arrogance in academe by those outside the teacher education arena. Teacher education programs often have a reputation for academic flabbiness and are looked upon with demeaning eyes by others. The attitude shared by many simply reflects an unfortunate low priority assigned to teacher preparation. This trend must be reversed. No other profession has the equivalent, profound impact upon the character of our society. It is said that teachers are immortal for we never know where their influence stops. They truly affect man's destiny. They help shape and direct the environments in which value building and character development take place. Furthermore, there is no other profession as demanding and yet as potentially creative. The forces which confront a teacher are powerful, complex and often puzzling. Why Johnny can't read is still a perplexing question. Its answer cannot be pursued by lightweights or any person who is simply seeking a job.

Why then cannot we consider a professional curriculum for teachers built upon two or three years of preprofessional education? Currently, college programs seek to cram the education of teachers into a limited time span which affords little more than simple exposure through survey courses often taught by persons who themselves lack the experience base to realistically qualify them as practitioners. An in-depth understanding of the sociology of education, learning theory, motivational behavior, environmental and social forces affecting the learning process all appear to me to require more than we normally give.

We also need to eliminate the delusion that entry into teaching is a right to be enjoyed by any person who chooses. This is a profession. Like medicine and law, there should be admissions criteria to carefully screen out the unfit. Certification should be based upon *valid measures of competency* rather than grades, time spent and credit hours. It should come only as the culminating reward after an internship experience where the prospective teacher's values, attitudes, skills and competencies are really developed and tested. After entry, accountability alone must be the criterion for continued acceptance. Surely as a profession teaching must rank on a par with medicine or law. We cannot accept the notion that work with a child's mind is any less complex than the diagnosis and treatment of a physical malady or the preparation of an estate or will.

Instructional Innovation

The second challenge, promoting instructional innovation, is viewed as the concern for the reconstruction of teaching into a profession. We must begin by recognizing that teachers employ in their own methods the styles and procedures which were influential in their development. A teacher cannot teach without an educational value system. Those prospective teachers who developed initiative and self reliance, who profited from self-directed learning will also seek to inspire or transmit these values to others. We must also know that we cannot isolate curriculum or course innovation from the other aspects of the prospective teacher's learning environment. Our concern for change must be directed beyond the development of skills to include the teacher as a person, a human being who will one day be given a charge to influence positively young minds. Teaching and the learning process remain quite personal. The attitudes which teachers carry to their work become as or more important than the subject matter skills they possess. Teacher expectations of student achievement, for example, may indeed affect the way students perform. A teacher's attitude may inspire or discourage by promoting self-confidence or provoking fear and self hate. The desire not to disappoint a teacher one loves and respects may be a more powerful positive force than the individual will to succeed or win approval.

Instructional innovation must, therefore, be directed toward more than the improvement of technical skills. It must embrace the whole of the prospective teacher's learning environment, especially that aspect which influences personal values and life styles. Perhaps we should begin by paying more attention to the peer group environment of the prospective teacher. We know that students often have a far more penetrating and enduring impact upon each other than their teachers have on them. In the adult world of learning, everybody is a teacher and everybody is a student. Thus we must ensure that the prospective teacher has meaningful encounters with his peers who will help shape and influence his values. I am suggesting that innovation must reshape the environment of the learner and focus upon all forces which affect the learner's development.

Paramount among our concerns must be innovation which affects the teachers of teachers. We cannot neglect them and expect major improvement. Professional educators know very little about the everyday life of the classroom. Many do not know or feel the forces which affect public school personnel. They are actually not a part of the fabric of public school education. Unlike medical school professors who practice medicine, the professional educator of teachers seldom has direct contact with that environment into which he is sending his students. This is a deficiency which must be corrected. It must be included among the challenges which currently confront teacher education.

If we are serious about challenges and innovation, we must abandon the traditional classroom as the major mode of instruction. We must recognize the basic principle that because learning is personal, it depends much more upon what the student does than upon the instructor. The experiences which actively involve the student are thereafter far more important than the passive environment of the classroom.

Many of our students aspiring to be teachers live in a world of fantasy and make believe. The problems they will face in the real world are unpredictable and often accidental. Their introduction into the world of work should occur early and in a manner which makes their experiences an integral part of their formal education. Prospective teachers must be given a genuine exposure to the multiple types of environments and communities from which their students will come. If they are to be effective in influencing learning and personal change, they must have the opportunity to develop for themselves community understanding and sensitivity. The pupils' home and community environment dominates him even when he is isolated from it in school. The prospective teacher must be prepared to understand this force. For example, it makes no sense at all for prospective inner-city teachers to enter this arena without personal exposure to the same urban milieu from which their pupils come. This exposure must be formalized and programmed into the prospective teachers' training.

Cooperative Planning

The significance of this challenge lies in the need for us to become more open, to become more involved with the constituency we seek to serve. Higher education bears the justly deserved stigma of a closed society. We have suffered from our suspicions of so-called outsiders and our obsession with a misguided monopoly on understanding. We must overcome our anxiety about involving those not formally in education in our planning process. We recognize now the valuable contributions which various sectors in our society can make in understanding and programming new techniques and styles in teacher education. We now intend to count them in, not only because they have something to contribute but also because they have a stake in what we do. These parties include students, parents, business and other persons from the world of work, personnel from other educational levels and private interested citizens. All of these groups in their own way can contribute to the planning process. There is concrete evidence that their involvement is healthy.

If we are serious about cooperation in planning, there are specific immediate steps we must take. We must first establish cooperation within the educational establishment itself. Many of our colleges are characterized by a variety of competing interest groups. In some instances, faculties, students and administrators are hampered by cleavages and status hang-ups which keep them from talking with each other about issues they jointly identify as important. The generation gap has all too often been a sham, an excuse used by the over-thirty and under-thirty generations to avoid listening to each other. If we are honest in our criticism, we would confess as educators, students, faculties and administrators, that we have much work to do to establish ourselves as a team. We are aware that in all of our styles there is a tendency to be rigid, to protect our vested interests. Students are certainly no exception. I remember my days as a young, militant graduate student during the turbulent era of the sixties. One of the things that I discovered is that the most rigid bureaucracy of them all is the student bureaucracy. We are all guilty in some way of promoting adversary relationships and manipulations to advance what we blindly perceive as the best of all worlds. I strongly suggest that if cooperative planning in teacher education is to have meaning and yield concrete results, the place to begin is with our own attitudes and behavior. We must first seek to modify our culture to give cooperation at home the highest priority.

Secondly, we must establish new models of relationship and articulation with the public grade school sector. In many places local colleges and the schools seldom talk to each other. Their cooperation is limited to the placement and supervision of student teachers. This is indeed unfortunate. The education of students who will soon enter the public school teaching profession has suffered. Doesn't it seem strange to all of us that those who are engaged in preparing teachers would have little contact with those who are engaged in education in public schools on a day-to-day basis? I propose a model of cooperation which embraces five major components:

1. The establishment of cooperative education centers between a college and several schools ranging from kindergarten through secondary.
2. These centers would facilitate the exchange of and joint appointment of teachers. College teachers would no longer limit their exposure to the college and its students. Those who are preparing students to teach should themselves spend time working in the environments in which their students will be involved. Likewise, those teachers who have spent the greater portion of their professional lives in schools could undoubtedly have something to offer prospective teachers by coming to work for a period in the colleges.
3. Students who are preparing to teach must begin at an earlier stage in their careers to observe master teachers in action. These field experiences for the student could begin long before he or she is dispatched to engage in student teaching. Such experiences should be a vital, integral part of the early training of students. Perhaps some will discover that real teaching is demanding and complex and is not always as romantic as it appears. Some will discover early that teaching as a profession is simply not for them. Their decision to depart may benefit all of us who may otherwise suffer later because they remained.
4. These centers would sponsor regular in-service seminars which provide for the interaction of teachers in the college and grade school sectors. This interaction would involve the joint identification and exploration of problems and issues in urban education. The process of problem solving would be continuous rather than limited to periodic conferences.
5. The cooperative centers could have the larger more significant role of creating joint resources for the college and the schools involved. The resources of the college would be deployed to provide a number of services on a continuous basis, such as information and advice about career possibilities and opportunities in higher education, tutorial assistance, and testing and evaluation services. I am simply suggesting the exploration of arrangements which will increase the articulation and destroy the barriers between lower schools, high schools and colleges. In this way, the educational community will function as a unit rather than as separate, independent entities.

A third requirement for cooperative planning is the creation of channels and models for the participation and involvement of parents, private citizens and all others who would seek to contribute to program development and innovation. This can come about only when and if we cease to be closed societies feeling threatened by those outside our ranks. We know that students are greatly influenced by parental attitudes and expectations. We must have parents as allies rather than as negative critics. They must see and understand what we do, and help us do it better. Their participation should not be limited to the propagandizing which we often do in education. They should be brought in and kept aware of new developments so that they can help influence their direction.

Whatever model the cooperative planning process may take, a significant part of it should be formalized and structured. Role relationships should be clear so that persons involved will not believe they are engaged in exercises or games. Their involvement must be real. If this challenge is accepted we will raise the level of effectiveness and credibility of the teacher education profession.

Effective Strategies For Change

We know that ideas about innovation abound in higher education. Yet we have a reputation for rigidity and resistance to change. It makes little sense to discuss innovation unless we also solve the problem of effective implementation. Change must be planned and managed rather than permitted to occur precipitously and without regard to society's goals. In-depth studies which provide a knowledge base for innovation must initially guide our efforts. It appears strange to many observers that we can send a man to the moon and make fantastic scientific and technological advances while at the same time we make embarrassingly slow progress in raising the literacy levels of our human population. Part of the answer to this dilemma is that in the area of scientific inquiry, we know we do not know many answers. Thus we search and find out. So often in the area of education we are so arrogant as to believe we know everything. We are less enthusiastic in raising questions and pursuing answers. The result is that we still do not know why Johnny cannot read. Certainly, the same principles of the scientific method must be employed in social and educational engineering.

Strategies for change implementation must also focus upon the culture of the educational consumer. He must see that the benefits are significant enough to justify the expense and that they are not personally threatening. Permanent change cannot be accomplished until the behavior and attitudes of people are changed. Innovation which fails to recognize this complex phenomenon of culture is bound for failure. Furthermore, the roles of the various power holders both inside and outside the institution must be assessed and understood. Fears, anxieties, vested proprietary interests, adversary roles and other resistances to change must be appropriately reduced.

The introduction and implementation of innovation in teacher education would be greatly accelerated if these principles were accepted. Basically, they can be summarized in one simple proposition:

> *Develop a strategy which proposes change which is knowledge based, and is of clear benefit to the consumer with a minimum of personal threat and a maximum of cooperative involvement of all major parties and holders of power.*

Research And Development for Assessment And Evaluation

Only if change is accompanied by a firm commitment to evaluate can we conclude that innovators are serious about improving education. We must test the effectiveness of what we do so that we can scrap those styles which fail to work. Built into all our endeavors in teacher education must be the will and capacity to be effective self critics. This is the major end of research and evaluation: to help us know our students and ourselves and to improve upon our performance. The learning process is still somewhat of a mystery to all of us. We still know less about what bugs students or what turns them on than we do about the technical aspects of what we purport to teach. All of us must commit ourselves to solving this mystery. Certainly we cannot be any less diligent and scientific when we work with the lives of children and young people than when we build a spaceship.

The challenges we face are bold and awesome. The mandate for change arises out of our own recognition that for various reasons many of our old practices are simply not working. If we are to seek new ways to teach and learn, we must be prepared to develop a new kind of professional class, with new structures and new assumptions. We may be given the choice of remodeling the chapel or reforming the church. I submit we must be prepared to do the latter. Those institutions which do not perceive the need and inevitability of change may receive the epitaph of the dinosaur:

> *I do not know why the dinosaur became extinct. All I do know is that something changed and the dinosaur didn't.*

This is the challenge we face. All we have to lose by ignoring it is the future survival of man.

THE EDUCATION AND TRAINING OF TEACHERS

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We are becoming increasingly aware, thanks in great measure to the efforts of ICET and similar bodies, of the apparent platitude that the quality of education, on which so many other aspects of our life depend, is determined by the quality of the teachers. We are realizing, moreover, that changes in social attitudes, the growth of knowledge including that of education itself, and the development of new approaches and new techniques make ever increasing demands on our teachers. There is no educational subject, therefore, that more urgently demands our attention than the education and training of the teachers themselves.

The response of the government in this country to the new emphasis on teacher training was to appoint a committee about 18 months ago to report on the subject. The Report of that committee, of which I had the honor to be chairman, was published at the end of January.* The controversy that followed its publication, although it did not altogether surprise me, was itself strong evidence of a very wide realization of the importance of the subject, whatever the merits of our particular proposals, and quite apart from the question as to whether they are ultimately adopted. It is not my purpose here to give a detailed account of what we recommended. What I think will be more useful will be to give some account of the general lines of thought which lay behind our discussions.

By way of introduction, however, I must say something about some of the difficulties which face anyone who seeks to discuss the training of teachers, for those very difficulties are themselves illuminating. First, we have to face the fact that some influential people are skeptical as to whether many teachers need training at all. It is only next year, after all, that in the United Kingdom some training in teaching will be required for all teachers in schools maintained by the state. It is, moreover, demonstrably true that many of our most distinguished and effective teachers have received no formal training, and if one moves outside the schools very few teachers in universities have ever received any training, although tentative and partial efforts are being made to provide it on a voluntary basis. Teaching is thus in a different class from nearly every other profession, such as law or surgery, in that its practitioners seem to be able to practice it without formal preparation. This being so it is sometimes difficult to convince critics of teacher training that born teachers are very rare and that adequate training is necessary for almost everyone that aspires to teach.

Secondly, the word "teacher" embraces a variety of tasks and skills and a range of knowledge that is not to be found in any other profession one can easily think of. We include in the single word "teacher" the individual who can instruct very young children in the essentials of literacy, the man or woman who can stimulate the average and not particularly gifted thirteen-year old to want to learn or to create something for himself, and the person with a really deep knowledge of his subject that is required to meet the challenge of teaching a class of exceptionally gifted seventeen-year olds. The idea that it is possible by any one kind of training to produce a "teacher" is manifestly untrue. Any scheme which we propose must provide opportunities for the very wide range of special needs that our differing pupils possess.

Thirdly, we must recognize the variety of other disciplines that contribute to the study of "education," a variety so great that there are those who doubt whether "education" exists as a study in its own right at all. And there is some substance in this fundamentally heretical view, for, as we all know, many of the most significant advances in educational thought and method have been made by those whose professional interest lay in philosophy or psychology, in history or in sociology. It is a realization of this fact

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**Teacher Education and Training: A Report by a Committee of Enquiry under the Chairmanship of Lord James of Rusholme,* Department of Education and Science, HMSO, 1972.

that has led to the low esteem in which the study of "education" is held, however wrongly, in many academic institutions, and which when combined with the inevitable enmity of many practitioners for the "mere theoretician," makes the task of devising a suitable program for the training and education of teachers a particularly difficult one.

Having sketched some of the initial difficulties let me now turn to discuss in the broadest way some of the proposals for reform which my colleagues and I put forward. My hope is that by so doing I may draw attention to problems that face us all, although I am conscious that some of the solutions we propose have already been adopted in some countries. The first, and in many ways I think the most important conclusion that was reached was that an entirely new scope and emphasis must be given to in-service training. We felt this so strongly that we did, as it were, write our report backwards, and actually began it with the education and training of the serving teacher. This was not simply a gimmick; it was a measure of the importance which we attached to this aspect of the problem. To ascribe such a priority to this element involved to some extent an act of faith, for surprisingly little hard information exists as to what effects various kinds of post-experience training actually have on teaching and the teacher; how long those affects last; the most appropriate kinds of education to accomplish ends which may be quite different for different individuals; and the effect on the schools themselves the in-service education of the staff has. And one could think of many more questions to which we badly need answers, which we have not got.

In view of what I have said about how little we really know about its effectiveness, it may seem perverse that we gave it the prominence which we did. We did that, of course, partly because of this belief which we nearly all share, partially unsubstantiated though it is, that such training is a good thing in itself, but partly also because the content of initial training will be radically different if we can be confident that some topics can be safely omitted, because those omissions can be rectified in subsequent years, and indeed in some cases can be deferred with positive advantage. It would be a remarkable piece of self-deception if we believed that the preparation of a student for any of the great variety of tasks that we include under the word "teacher" could be completed in two or three or four years. And, of course, we do not. The multiplicity of courses for serving teachers arranged by the Department of Education and Science, by Local Authorities, by university departments and institutes, and by professional associations of teachers of very various kinds, all bear witness to the efforts that are already being made. Where do they need improvement? Many of them are too short for their declared aims; many suffer from the financial obstacles put in the way of the organizers and the teachers who might wish to participate; we have, as I have said, in many cases no idea how effective they are, and, finally, they are often lacking in machinery for coordination so that wasteful duplication occurs and important gaps exist. But having said that, it was certainly no part of our intention to do anything but expand, encourage and improve the kind of courses that already exist. What we did affirm is the need for the teacher to have a *right* to a more substantial period of in-service education. As you know, our suggestion is for one term in seven years which we hope will improve to five years.

One question has been asked us. Should not obligation go with rights and should not such a term be compulsory? I may say that we devoted much thought to this question of leaving it for the time being as a voluntary provision. Does this not mean, it may be asked, that the very teachers who need it most will not, in fact, go on the courses? Into the arguments that brought us to our conclusion I will not go. They included such considerations as the undesirable effect of unwilling conscripts on courses during what will inevitably be a time of experiment and transition.

A second question that arose was if courses were not to be compulsory, whether some financial inducement should be given to those who attend them. We preferred to leave the inducement as being primarily one of becoming better at one's job, and leaving more materialist considerations to be dealt with by the ordinary mechanism of promotion of more highly qualified people.

Let me turn now from the general principle of the desirability of in-service education to enumerate some of the very varying factors which make it so vital. First it is necessary because knowledge changes. I took my degree in Chemistry in 1930. If I look at the papers set in the same examination today I cannot do them; that would not be expected. But the real point is that I never *could* have done them, because two-thirds of the knowledge required actually did not *exist* at that time. And some of that knowledge is now part of the school curriculum. Thus, although during my first 12 years as a schoolmaster I could still teach the top sixth form, during my 16 years as a headmaster I was relegated to teaching one particular branch of chemistry to the B stream, and now I could not teach a sixth form at all. Given a term in a university learning some modern chemistry, I could just about make an attempt. That is an example at one end of the academic spectrum, the highly specialized work of a good sixth form. But if we think of the other end, the greater knowledge of how five-year olds learn that we have acquired over the past years, are we not driven to the conclusion that the infant or primary teacher needs refreshment no less, if of a quite different kind? It is quite certain that the junior school teacher who teaches arithmetic and who qualified ten years ago has never heard of set theory. Whether it is right that they should now is another question, but the fact is that many think it desirable that they should, and the only way they can learn it is to have time off to do so.

But this leads us to the next point. Not only does knowledge change; techniques of teaching change. The changes may involve whole questions of attitude, associated with team-teaching, or open plan schools or whatever. They may involve the more material affairs that are included in the words educational technology. The idea that the mere installation of a language laboratory will revolutionize the teaching of primary French is a heresy extraordinarily widely held. If we devise new tools for teachers it is vital that they should be given really wisely planned courses on their value and their limitations, courses which are cheaper than the actual hardware which without them is almost useless.

And thirdly, society changes. The growth of technology produces new problems and if our citizens are to be aware of them and prepared to cope with them, then fresh demands are inevitably placed on those who teach. We are in many ways becoming more humane, and some special training is therefore necessary for those who teach in educational priority areas, or whatever we call them. The challenges of a multi-racial society have educational results. If the character of the society for which he prepares his pupils changes radically during his working life, it is clearly essential that the teacher have periodical refreshment.

And teachers themselves change. They both tend to ossify and to develop. The mere avoidance of staleness is one of the great justifications for in-service training. Hence we must avoid rigidity in our plans for what teachers should actually do in their periods away from their schools. The chance to follow a course of wide reading and to talk about it with tutors and colleagues may be the right shot in the arm that some need. The opportunity to engage in some modest piece of research may be the right thing for others. The mere opportunity to associate in the life of a college, a different school or group of schools, a university department or an education office, may provide the stimulus that will give some stale teachers a new lease on life.

Further, it is clear that with experience some teachers develop new interests in special fields, for example, the teaching of handicapped children of various kinds, school library work, or counselling. All these demand special skills and it is one of the functions of in-service training to provide them. The man or woman who becomes a head of a department, or of a school will meet their new responsibilities better if they have some specific preparation for them.

To provide the courses necessary to cover these various aspects of in-service training may be met by the creation of a network of professional centers. Not every center would, of course, be able to cover all the areas I have mentioned, still less others that will suggest themselves. There will have to be some specialization in the work done by many of them. Nevertheless, the idea of the professional center remains as a place where the educational expertise of a neighborhood can be mobilized to provide lecture courses and more importantly, seminars and discussions, together with appropriate material resources, to enable the serving teacher to engage in periods of in-service work, say of 12 weeks duration, related to his particular needs and objectives. In very many cases these professional centers can and should be associated with university or polytechnic departments of education or with existing colleges. In some areas it may be necessary to create them. But whatever their precise form, their value, not only as centers of in-service training, but as places where teachers can meet, learn and discuss with others, whether lecturers, inspectors or advisers concerned in the service of education, cannot in my view be questioned.

Let me now turn to the more controversial field of the organization of the initial training of teachers. We may here identify four needs which must be fulfilled. The first is that the teacher should have a course of education which will develop him as a person and the nature of which will clearly depend on his abilities and aptitudes. Secondly, he must be equipped with sufficient knowledge of what he is going to teach to make him effective. It may well be that this will overlap considerably with the course of personal education which he follows, though it need not. Its nature will depend on the area of teaching he intends to pursue and on the age and abilities of his prospective pupils. Thirdly, he must possess as adequate a knowledge of the theory of education and of the subjects that relate to it as his abilities and the length of his course permit. Lastly, he must possess such practical expertise in the art of teaching as shall enable him to start on his chosen career without too great a measure of incompetence so that neither he nor his pupils shall suffer too much from his inexperience. The balance between these four elements will clearly vary with the kind of teaching he proposes to do. The man or woman who will teach Latin and Greek at university or near-university level needs to know more of the actual subject matter he is dealing with and less of learning theory or classroom management than the class teacher of five-year olds, though it is not inconceivable that he could sometimes profit from a little more of that knowledge than he often possesses today. But whatever the actual work of the teacher, his initial education and training should contain in some measure the four elements mentioned.

In England we have, as you know, two fairly clearly defined streams for the preparation of teachers. The first is usually for teachers of an academic subject or subjects to secondary pupils. They take a conventional degree course at a university, or now at a polytechnic, in history or chemistry or English, or whatever it may be, followed by a year's more or less intensive course in education associated with some practical experience in a school. I should add that some universities, including the University of York, have initiated mixed degree courses with education as a subsidiary to a main academic subject. On the other hand teachers who aim at primary school teaching, or the less academic elements in secondary schools, follow a quite different course in a college of education, in which personal education in academic subjects, the acquiring of knowledge of educational theory, and practical experience are pursued together in what is known as a concurrent pattern leading after three years not to a degree, but to a certificate. A small number, about ten percent, are able to obtain the degree of Bachelor of Education by a fourth year of study in which an academic subject is studied side by side with education. It should be added that whichever route a student follows, whether the degree followed by one year of professional training, or the three-year concurrent course, the first year of teaching is probationary and the teacher is not fully qualified until that year had been satisfactorily completed. It should also be added that this probationary year is at present a complete farce since no adequate steps and often no steps at all are usually taken to supervise, to encourage and to advise the probationer.

My Committee has suggested a revision of this system, a revision that affects the colleges much more than the universities. For those people who are devoted to a subject or small group of subjects and are good at them, it is probably right that the best course is a degree at a university or polytechnic followed by a course in education, though we should make considerable changes in the probationary year that I shall mention later. It is with those who now go to a college of education, at present committed to teaching, that we are more concerned. Here we have taken the controversial step of apparently abolishing the concurrent system and substituting a consecutive one. This means that some, if not all, of the colleges may cease to be concerned only with intending teachers. They would become an alternative form of higher education, and they would offer a two-year qualification, which we propose calling the Diploma of Higher Education, rather than a three-year degree. This course would be based on three elements on a unit system. One element would comprise a course of general education; the other two would be special subjects studied in depth and chosen by the student. The general education element would owe much to such American work as the Harvard Report of many years ago, though less prescriptive. It would be flexible and capable of being adapted to the student's own inclinations. I myself would like to see it borrow from Hutchins, for like our own F.R. Leavis in his seminal book, *English and the Universities*, I believe that one of the cores of general education is the study of literature. Nevertheless it must be right that such a course must contain elements of the natural and social sciences. But let me be heretical. I believe for a future teacher to read and to try to understand great literature may be at least as valuable, even in a professional sense, as nine-tenths of the books devoted to education.

I have said that such a course of two specialized subjects combined with general education would apparently destroy the idea of the education of teachers by a concurrent course, involving education. But it need not. It is possible to reconcile the two ideas. For among the specialist studies which the student follows might be included such fields as child development or social psychology, which would be appropriate to the person who knew from the start that they wished to teach. It is perfectly conceivable that some whole colleges might concentrate on such initial courses for what is called the committed teacher, and practical work in schools and other institutions dealing with young people would form a natural part of their courses. In other words, those colleges would not have to change much if they did not want to.

What would be the advantages of this modification by which many intending teachers followed a two-year course of the kind I have outlined? They can be summed up by saying that not only would teachers receive a broader education but also a new flexibility would be introduced into our system of higher education. One would hope that others besides teachers would wish to take the Diploma rather than commit themselves to the present three-year study to be a teacher, or three years of fairly specialized academic work at a university or polytechnic. For on the attainment of the Diploma four alternatives would be open. The students could regard it as a terminal qualification and leave for business or industry; they could make a firm decision to be a teacher and follow a course I will describe in a moment; they could go on to professional training in some other profession, for example the social services; and finally they could discover in themselves the ability, and above all the inclination, for further rigorous academic study which they could satisfy by transferring to a university, a polytechnic or in the case of some colleges of education, obtaining their degree by a further year's study there. The Diploma of Higher Education, at any rate in the opinion of my colleagues and myself, provides a reconciliation between concurrent and consecutive training: it provides an alternative form of higher education for those whose vocational aims are not fixed, and for those who are reluctant to commit themselves to the proper rigors of an honors degree, even if they have the ability, and it meets the objection of many teachers that they do not wish to be educated in isolation from those entering other professions.

What, now, of the prospective teacher with a Diploma in Higher Education? They would move on to a period of strictly professional training and be considered in exactly the same way as a university graduate. My colleagues and I would indeed regard it as disastrous if a man or woman were chosen for professional training simply because they were graduates in preference to someone with a Diploma and a genuine sense of vocation. This is a very real danger because of the partly spurious prestige of a degree. For the specialist teacher of some particular subject at an advanced level, a degree is, of course, relevant. For most other teachers it is not, compared with the more weighty criteria of motivation and personality. At any rate, those Diploma students who wish to teach will, under our scheme, have, exactly like graduates and we hope often in the same institutions, a year's professional training. We have been criticized because we seem to have minimized the need for practical work. Actually a student can have as much practical experience as his college regards as suitable. But much of it as at present conducted we do regard as a waste of student and especially staff time. We have tended to cut down the amount of formal teaching practice, immensely valuable though it may be at its best, though that best it rarely reaches, for two reasons. The first is to emphasize the great value that can be obtained from certain substitutes, such as micro-teaching, and other methods involving audio-visual aids, and secondly, and much more important, because we want to make a reality of what is now called the probationary year, that is the first year of actual teaching.

In a few very good schools the new teacher gets support and guidance from his more experienced colleagues as a matter of course. I did myself when I was a young teacher, and the debt I owe to those colleagues is more than I can say. But this was an abnormal experience. How can we make it, if not the rule, at any rate, not exceptional? We have suggested that in his first year of teaching, that is his fifth year if he is a graduate, his fourth if he has secured a Diploma, the teacher, although on full pay, should only teach for the equivalent of four days a week. The fifth day should be free for him to attend a professional center for seminars and discussion, where he will meet, not only other probationary teachers but experienced teachers on in-service training, and have the benefit of contact with lecturers, inspectors and those others associated with such a center. We can see the difficulties, often geographical, of such an arrangement. We believe that they can, and must, be overcome, for the assurance and support that such a regular contact with others engaged in the service of education could give to a young teacher would be of incalculable value.

We also make another proposal which we believe will have an important effect on the development of the inexperienced teacher. That proposal is that in every school a suitably experienced member of the staff should be designated as a professional tutor, being normally given a lighter teaching timetable. His task would be to exercise general guidance over the work of the probationary teacher, and in addition he should familiarize himself with the field of in-service training so that he could advise all his colleagues on suitable courses to attend. In very small schools the headteacher would no doubt act as the professional tutor; in very large ones it would be necessary, no doubt, to have several such people. But I do not think we can doubt the value of making universal and formal an arrangement which has always existed in an informal way in a few very good schools.

At the end of this probationary period the teacher will be fully qualified. It is our suggestion that he or she should then obtain a degree. He or she has, after all, successfully completed at least two years of academic study; they have then had one year's professional study of education, and finally they have completed successfully a year, four-fifths of which has been devoted to the practical side of their profession, and the remainder to further learning, thought and discussion. Surely such a four-year course combining the academic and the practical, personal with professional education, is worthy of the B.A. (Ed.) which we propose? Yet it is this proposal, perhaps more than any other, that has raised the temperature of criticism of our Report. Apparently there is a Platonic idea of a "degree" which, in spite of the history of British universities in the nineteenth century, in spite of degrees in brewing in the twentieth, make its virginity intact from anything as banausic as the art of teaching. I myself have often been criticized as being an elitist. Insofar as I believe that academic studies, and the universities as their home, have a unique part to play in a humane society, this is true. But it is the nature and function of universities that I am concerned with, rather than to prevent skilled and educated people acquiring the label of a degree, should they so wish.

This leads me naturally to the last part of our Report. It is concerned with administration rather than education, and hence is the dullest, and yet has aroused more controversy than any other; presumably because it is concerned with power and prestige. At present in the United Kingdom the colleges of education and the university departments have been linked with a university in an Institute or Area Training Organization (ATO). It is through the parent university that their certificates are validated. The small minority of their students who obtain a B.Ed. degree obtain it from that university. My committee has recommended a very substantial modification of this machinery. Instead of university dominated ATO's we propose a network of regional committees. Those committees will, of course, have representatives of the universities in their area, but they will also include representatives of all those with a concern for the education and training of teachers: polytechnics, the Open University, local education authorities, and the Department of Education and Science. Most important of all they will have substantial teacher representation and still more representation from the colleges of education, since it is after all these institutions that are the main concern of these Councils.

We have, indeed, gone further than simply modifying the control of the organizations controlling the colleges in an area, for we propose that universities should no longer generally validate the awards made by colleges, whether those awards are the Diploma of Higher Education or in the case of some colleges, a degree, although we could not, even if we would, actually prohibit a university validating the awards of particular colleges should it desire to do so as some probably will. But we have made no secret of the fact that we would prefer the validating body to be the National Council for Academic Awards, a Council set up to supervise the award of degrees in polytechnics, and which has been most successful in fulfilling that function.

It would be idle to deny that the proposals we have made both for the new councils and for the validation of awards have met with bitter criticism. And in many ways one can see why this should be so. Many of those working in the colleges of education value greatly their connections with universities, however tenuous that connection often is in practice. The universities, it is undeniable, stand at the summit of the academic hierarchy, so that there is a certain prestige involved in any association with them. Further, they are autonomous bodies uncontrolled by local education authorities, and only indirectly controlled by the central government, so that many in the colleges feel an assurance of academic freedom by being associated with them. Many teachers take the same side in the controversy since they look forward to the day when teaching is an all-graduate profession, and when all teachers possess what they regard as a "proper" degree, that is to say one awarded by a university. In the face of these deeply held convictions why did we on the Committee take a contrary view? I will refer only to two of the arguments that influenced the majority of us. The first is that the universities, as we know them, are devoted to rigorous studies in depth over a fairly narrow field. Such studies are appropriate to the future specialist teacher of one or two subjects at a high academic level. But they are not the kind of broader preparation that we wish the majority of teachers to have, and which universities are not really designed to give. There is a danger that false rigor and a bad kind of academicism can flow from a desire to attain what are called university standards in fields where such an approach is misguided and for students for whom for one reason or another it is inappropriate.

The second line of thought relates to the liberty of the colleges. We feel that they have now reached a stage in their development where they have passed beyond the need of tutelage. Association with universities they will undoubtedly continue to have, but it will be more fruitful if it is based on a greater independence to discover their own individual role in the pattern of higher education, in the same way that the polytechnics are doing. They are, we believe, more likely to do this as regards their curricula, their methods and their ultimate objectives if they work with the National Council for Academic Awards and validate their own qualifications once their suitability to do so has been approved by that body. I have said that these proposals are deeply controversial, and it would be wrong if I asserted too dogmatically either that the changes proposed by the committee were the only right ones, or still less that they will ultimately be followed. Nevertheless, I believe that the controversy itself has done good, for it is leading to a great deal of fresh and hard thinking about the form and content of the education and training that we need to prepare teachers for the challenges that they face today, and about the possible role of the colleges in an expanding system of higher education. But we must never allow ourselves to forget in this controversy and planning that behind our reports, beyond our administrative arrangements, transcending our wrangles about prestige, there are children hungry for knowledge, anxious for help, demanding opportunity, and it is for these that we must ultimately be concerned.

News of Teacher Education in Peru

The Pedagogical Institutes in Peru, the highest official level of teacher education, are currently undergoing an evaluation of their structures and functions in preparation for conversion into institutions of the "Second Cycle of Higher Education". At the conclusion of this process, these establishments will be entitled to offer the *Licenciado* degree in the same manner as the univeristies presently do.

The new Educational Law, which came into effect early in 1972, has introduced the requirement of *servicio civil de graduandos*. Under this new arrangement, no college student can receive a degree until he engages in some form of community work for a period of "no less than fourteen months." The Representative Council of Peruvian Universities, CRESU, has been given the responsibility of implementing this new requirement.

II

CHALLENGES AND PRESSURES FOR REFORM AND INNOVATION

CHALLENGES FOR TEACHER EDUCATION IN EAST AFRICA

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The selection of Nairobi, Kenya, as the site of the 1973 ICET World Assembly provides an opportune moment to take East Africa as a case study and to reflect on the problems facing teacher education in the developing world.* It would be difficult to exaggerate the importance which East African countries and indeed all countries of the developing world attach to education as a lever of social and economic change. East African governments spend 20 to 30 per cent of their annual budgets, or 4 to 6 per cent of their Gross National Products on education. Parents spend large proportions of their meager incomes to pay school fees and also build "harambee" or self-help schools for the education of their children. Children walk long distances to school, often forego a mid-day meal, and cram the contents of partially digested foreign textbooks in order to go over the hurdles of examinations. The importance of formal education as a means of advancement on the socio-economic ladder is almost everywhere taken for granted.

Yet, despite this public zeal and heavy investment in education, the gap between educational supply and demand in these countries is wide and increasing as is the gulf between the rich and poor nations of the world. Only about 40 to 50 per cent of the children of primary school age are actually enrolled in the primary schools of these countries, and only about 10 per cent of those who complete the primary school, or 3 to 4 per cent of the relevant age group, are able to find places in secondary level institutions, while fifty per cent or more of the adult population cannot write or read. There is such a narrow bottleneck at the end of the primary school, and at the entrance to the secondary school, that the stream of primary school leavers for whom neither secondary school education nor employment opportunities in the modern sector are available constitutes a major problem. The figures in Table I on Kenya show that the "index of opportunity," or the number of secondary entrance places for every 100 primary school leavers, is not only very small, but is also declining.

TABLE I.

Number of Primary School Leavers Gaining Places in Aided Secondary Schools in Kenya, 1964-67.

	1964	1965	1966	1967
CPE Candidates in Preceding Year	62,125	103,400	150,000	150,000
Secondary Places	8,956	11,529	12,754	14,000
Index of Opportunity	14.4	11.2	8.5	9.3

Source: Kyale Mwendwa: "Constraints and Strategy in Planning Education" in James Sheffield (ed.), *Education, Employment and Rural Development.* Nairobi: East African Publishing House, 1967, p. 278.

Although East African countries are under-populated in terms of absolute numbers, the population density being only 46 per square mile, the annual rate of population

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*Some of the ideas expressed in this paper are based on a paper by the same author, "New Directions in Teacher Education," *International Review of Education,* XVII/1971/2, pp. 197-207.

growth is very high (between 2.5 and 3.5 per cent). Moreover, the proportion of the population which is composed of children is also comparatively very high, while that of children between one and five years is not only high but also increasing. It is estimated that of the 30 million people living in these countries today, almost one-half are under the age of 15 years. This high rate of population growth and the high ratio of school age or dependant children to productive adult workers pose a major problem to East African countries. The children are not only unproductive, but they consume a proportionately higher share of the social services such as health services. There is the danger that education may continue to be available to a progressively smaller proportion of the school age population unless the East African economies sharply increase their rates of growth, or steps are taken to raise the yield of educational resources, thus coping with more students without consuming a much greater proportion of national resources. Otherwise East African countries, like Alice in Wonderland, may have to run as fast as possible just to keep in one place.

Another problem related to the rapid demographic growth and relatively diminishing educational opportunities, is the fact that the number of new employment possibilities generated by the economies is rather static and in some cases diminishing. Despite considerable injection of capital into the East African economies, few additional employment opportunities in the urban sector appear to have been created in the last few years to absorb the stream of primary and secondary school leavers. In Uganda, for example, the total estimated number of adults in gainful employment remained stagnant in the ten years between 1955-1965.

Another educational problem which East African countries face is that of the low academic and professional qualifications of the primary school teachers. In Uganda, for example, in 1968, 25 per cent of the total primary school teaching force of 20,000 were Grade I, with only six years of primary education *or less* plus two years of professional training. About 50 per cent of the primary teachers are Grade II with seven years basic education plus four years of professional training. Of the 53,500 teachers in the primary schools of Kenya in 1966, 30.5 per cent were untrained and 28 per cent had only the certificate of primary education or less. In Tanzania 9,500 are in the C grade with formal education of more than eight years plus two years of professional training. Many of these teachers find it difficult to keep abreast of new teaching methods. The result is that teaching techniques are often formal, consisting of drill on the part of the teachers and learning by rote on the part of the children.

The dearth of adequately qualified local tutors in the primary teachers colleges also poses a major problem. In Kenya and Uganda, there is still a large proportion (50 to 60 per cent) of expatriate teachers in the teachers colleges. Of the East African tutors teaching in these colleges, less than 10 per cent hold a bachelors degree. While Tanzania has almost completely Tanzanianized its teacher training college staffs, most of the tutors hold no academic degree. The problem of localizing the staffs of the teachers colleges and schools is, therefore, one of numbers and of raising the professional and academic quality of the teachers.

The Uganda Education Commission commenting on the problems outlined above, posed the following question:

> "When over half the nation is illiterate and the people clamour for education; when teachers are in short supply and inadequately trained; when Government and industry demand trained recruits; when unemployment is widespread and increasing; when the country is poor, what policy should the Government pursue?"[1]

East African countries and indeed all countries of the developing world are faced with the formidable problem of devising educational systems and teacher education programs which are relevant to their national needs. Those developed in the colonial period and which were taken over almost intact after independence, were not designed to solve these problems. As Mwalimu Nyerere, President of the Republic of Tanzania, states in his *Education for Self-Reliance:*

> "The most central thing about the education we are at present providing is that it is basically an elitist education designed for the interests and needs of a very small proportion of those who enter the school system. ...it is designed for the few who are intellectually stronger than their fellows; it induces among those who succeed a feeling of superiority and leaves the majority of the others hankering after something they will never obtain. It induces a feeling of inferiority among the majority and can thus not produce either the egalitarian

> society we should build, nor the attitudes of mind which are conducive to an egalitarian society; on the contrary it induces the growth of class structure in our country."[2]

It is, therefore, realized that the values and objectives of education have to be redefined.

An education system dominated by examinations and aimed at preparing school children for secondary school, and secondary school children for university, can never meet the needs of a developing society such as that of East Africa. Efforts are, therefore, being made to make education at all levels, but especially at the primary level, more practical and agriculturally oriented than has been the case in the past. There is no doubt, however, that the key to raising and re-orienting the quality of primary and secondary education and thus affecting the rate of national development lies with teacher education. In a real sense, as teacher education goes so goes the nation. The objectives and methods of teacher education must be re-examined most critically in order to produce a new kind of teacher in these countries.

In Tanzania where this trend has moved furthest so far, following the Arusha Declaration on African Socialism and Self-Reliance, the objectives of teacher education have been re-defined and the curriculum of teacher education has been drastically altered. The objectives of teacher education in order of importance are:

- *To educate the student in the true meaning of the Tanzanian concept of "UJAMAA," that is, mutual assistance or "familyhood;"*
- *To train the students to be dedicated and capable primary school teachers with understanding of the children placed in their charge; and lastly*
- *To deepen the students' general education.*

Attempts are being made to achieve these goals in a number of ways such as:

- The introduction of "National Education" as a major constituent of the subject formerly known as Principles of Education in which much greater attention is being paid to developing attitudes of leadership and awareness of current political problems and aspirations among the future teachers.
- The introduction in all colleges of an assessment formula which tries to measure a student's social attitudes and national spirit.
- A determined effort to revive national cultural activities, especially through the arts.
- An emphasis on civics as a subject to learn and to teach later in the schools.
- A continuous effort to relate other subjects, particularly geography, history and literature, to Tanzania and to Africa.
- A remarkable increase in the use of Ki-Swahili as a medium of instruction and a language of communication in the colleges and schools.

In addition, all students do national service, during which they leave the college for at least six months to participate in community projects and physical training.

The Conference on Education, Employment and Rural Development held at Kericho, Kenya, in 1966, focused specifically on the crisis precipitated by the flood of primary school leavers who could not find wage-earning urban employment and who do not fit into the rural sector of the economy.[3] Partly as a result of that conference, and following a general trend since independence, efforts are being made in Kenya and Uganda to re-define the objectives of teacher education and to re-shape both the values and structure of education in general to give greater emphasis to those aspects of education which are likely to stimulate rural development and transformation. Another conference held in Nairobi in 1971 under the auspices of the Universities of Eastern Africa examined further the "Role of Teacher Education in promoting Rural Transformation."[4]

Programs for training teachers of agriculture and technical subjects have been instituted at Egerton College in western Kenya, and at the Kenya Polytechnic in Nairobi respectively. It has also been recommended that experienced professional educationists with a basic training in agriculture or agricultural science should be appointed to the staffs of all teachers colleges in Kenya to ensure that science subjects in the schools will be taught by teachers who have themselves been taught to appreciate and understand the principles and problems of agriculture. Village polytechnics have also been established in parts of Kenya to cater to young people who cannot be absorbed by the formal school system.

In Uganda, Makerere University has incorporated the teaching of agriculture in the post-graduate course for the Diploma in Education, and there are plans to expand agricultural education in the secondary schools. A UNESCO pilot project aimed at ruralizing the primary and teacher education curriculum is also underway at the Namutamba Teachers College in Mubende District.

Conclusion

While it is accepted that the development of authentically national systems of education which enable the individuals to achieve a harmonious and positive relationship with their environment is essential, no one should be under the delusion that the ruralization of the curriculum of teacher education institutions and the schools will be a panacea to the rural exodus of school leavers. These problems are not entirely nor principally educational. They have their roots in economic considerations, namely in the great disparity in economic opportunities and standards of living between the rural and urban areas. As Sir Arthur Lewis once aptly pointed out, as long as we tax farmers in order to build tarmac roads, secondary schools, and hospitals not in the rural areas, but in towns, a young man who leaves school and goes back to the rural areas ought to have his head examined. The real solution seems to be in the direction of programs of rural development and transformation. It is village and small town development, extension of health and education services, water supply, construction of access roads, and the organization of marketing for produce that will, in the last analysis, induce school leavers and adults alike to remain in the rural areas.

There is also a great need to close the gap between the formal school and adult education. The young people on whom schools focus most of their attention and public spending will take a long time before they become adult producers. Society cannot wait until the primary school children of today become adults to get the economic and social development it desires *now*. There is a need to pay more attention to the education of adults and to integrate the schools in the community so that the school becomes a community and cultural center, a place where not only the young people come for formal education, but also adults for continuing and life-long education.

There is no area in which there is more urgent and continuing need for reform than that of the professional education of teachers. If the developments mentioned above were to become a reality, a new type of teacher is essential. We must prepare teachers who are not only good classroom operators but also community leaders. They must be trained not only in the techniques of teaching young people but also in adult education and group dynamics. They must be sensitized to the imperative need for national integration and economic development. They need to have a deep conception of the nature of society and of their own role in influencing the shaping of social goals. They need to know much more than those things which immediately impinge on the academic welfare of their pupils. They need a deep understanding of the main social, political and economic problems of their countries and the role which education can play in alleviating, if not eliminating, those problems. Above all, as the second Kenya Conference on Teacher Education in 1968 emphasized, teachers should acquire skills through their own independent study and through problem-solving rather than through the usual lecture method alone.

The Association for Teacher Education in Africa (ATEA), convinced that a new and more effective kind of education is needed for teachers of today and tomorrow, convened a conference in Uganda in 1971 to focus basically on "Reform in the Professional Education of Teachers in Africa."[5] This conference recommended the launching of programs of research, seminars and workshops to develop new courses and teaching materials for the professional component of teacher education. It is my hope that there will be the closest cooperation between ICET, aid donors and ATEA in these endeavors to reform the professional education of teachers.

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Current Problems Of Teacher Education And Advancement In Poland

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The accelerated rate of development in science and technology together with the recent cultural and social transformations require that school structures respond to new and always increasing tasks. The society expects the educational system to play a more important role in developing the economy and culture and in linking the processes of the latter with the continuing revolution in science and technology. During the last quarter of this century, the Polish educational system accomplished great progress in increasing the number of schools and teachers, prolonging the duration of schooling, and in modernizing the educational process. The recent demographic explosion having ended, the number of children in schools in visibly decreasing, which makes it possible to strengthen the major institutions while simultaneously consolidating or closing the small ones. The present educational system, which served well during the postwar period of rebuilding, does not, to a sufficient extent, guarantee the progress we would like to accomplish during the forthcoming period. Therefore, we are preparing a new educational reform. The work of the Experts Committee, appointed to examine the present state and future of education in the Polish Peoples' Republic, is almost completed.

The teacher has found himself in a new situation. The youth of today obtain their knowledge, and it is increasing all the time, outside the school. The requirements that the teacher and the school are supposed to meet are increasingly becoming those of assisting the students in evaluating the knowledge acquired elsewhere, organizing it and revealing its applicability, as well as making the pupils independently capable of acquiring new information, values and experiences. The pupils' conditions having been transformed, those who prepare the teachers for their work are set the task of making them "open" to the changes and inspiring them with a positive attitude toward the innovation. The practice, applied until now, of adapting the teacher to conditions considered to remain unchanged during the whole of his professional career, turns out to be entirely irrelevant and even prejudicial. It is obvious that the development of flexibility and responsiveness is much more difficult than preparation for constant conditions. There is, then, a question of great importance: how far is this new situation being considered in regard to teacher education and improvement? Unfortunately, the teacher is being educated, in great part, as he always was. The new situation sets before the high schools and other institutions for the education and upgrading of the teacher the task of introducing significant changes into the substance and methods of teacher education.

The transformations in professional teaching are in great part determined by the staff available for the educational system. During the past twenty years, Poland has continuously lacked teaching staff, due partly to the significant loss of more than twenty per cent during the war. The dynamic development of the various types of schools, especially kindergartens and primary and professional schools, produced a profound need for sufficient teaching staff. The demographic explosion made the situation even more difficult; from 1952/53 to 1959/60, the number of primary school children increased by sixty per cent. Finally, teachers moved into other sections of the economy, the state administration and political and social organizations being the most popular. As there was a lack of resources to satisfy, even with respect to quantity, the educational requirements, there was an enormous percentage of teachers without the proper qualifications for work in the primary schools. For example, the percentage of non-qualified teachers in the particular years was as follows:

1946–24.4%, 1948–26.0%, 1949–42.5%, 1950–24.9%, 1951–26.2%, 1952–24.5%, 1953–21.3%, 1954–16.3%, 1955–10.7%, 1956– 8.0%, 1957– 5.5%, 1958– 5.5%, 1959– 5.4%, 1960– 3.7%.

Presently teachers are being educated on the following levels: the kindergarten teachers at the pedagogical secondary schools of five years duration; the eight year primary school teachers at the teachers higher schools of three years duration; the secondary school teachers at the higher schools, the university being the model. The existing differences in the levels of education acquired by the educational staff has resulted in some consequences of a certain complexity. The question of fundamental importance is the lack of articulation within the differentiated educational system since each type of teacher education maintains a closed program-and-methods structure all its own. Also, as a result of the multistage education, there is still a considerable group of practicing teachers and tutors who continue to be educated by attending the various forms of evening studies or extra-mural courses. This manner of getting an education is, as is commonly agreed, arduous, as well as of insignificant effect. Moreover, the surmounting of the present shortages is to be accomplished with the realization of a full higher education for all teachers. The Polish educational system has presently obtained all the fundamental requirements to make it possible for teachers of all the kinds of schools and of all the specializations to acquire, in principle, higher education of the university type.

The accelerated rate of development in science and technology being the existing condition, it becomes important not only to prepare a teacher for his work, but also to maintain his efficiency during the whole period of his professional activity. Every modern educational system of today is supposed to not only deliver the high quality teaching staff, but also to provide for the permanent renewal of qualifications, according to changing requirements. There are two fundamental and complementary elements to be considered: advancement obtained in the course of daily work in the school and advancement obtained by attending the longer, systematic courses in which the renewal of knowledge is the basic purpose. In our educational system, while the organization for enabling the teachers to improve their qualifications in the course of the work at the school is well developed, the forms of systematic improvement, especially when bound with the higher schools, other scientific institutions, and the institutes of teacher education, still require developing.

After considering the problems of teacher education and improvement according to UNESCO recommendations and the specific needs of the educational system, we are presently attempting to accomplish such changes in education and improvement, which will eventually result in a system of continuing or permanent education. Creation of a uniform system of permanent teacher education being the starting point, the important question is to plan the whole period of the professional activity. The existing forms of education are characterized by dispersed activity. There is a necessity to bring the particular forms of permanent education into relationship to make all the stages of the teacher's professional development form a complete, internally united pattern. The main task of the permanent education system is to make the educational personnel continually familiar with developments in science, pedagogical and social knowledge, as well as new advances in each specialization. The system must assure the possibility of advancement and self-education to every teacher without regard to work conditions, type of school, specialization, and position occupied in the educational system.

The tasks and problems at the moment of interest in the Polish educational system are associated with raising the level of the practicing teacher's qualifications, and developing an integrated system for the training of all new teachers at the level of higher education. From among 336,000 full-time employees in the educational system, 48,000 of the teachers have graduated from the university with the M.Sc. degree, 10,000 from the professional higher schools, 187,000 were educated at the teachers' colleges and 86,000 at the pedagogical secondary schools. The fundamental tasks of the teacher education system are concerned with improving the qualifications of the teaching staff to the professional higher school level. It is presumed that this task can be accomplished by the early nineteen-eighties. The system of teacher education is thus being transformed to phase out the multistage education and to create the united and integrated system of education. The professional advancement of the teachers is linked in great part with the higher schools which are growing more significant. Every five or seven years, the essential and pedagogical knowledge should be reviewed by every teacher. There are also the specialized centers for professional improvement now being developed. These advancement centers provide systematic programs, particularly designed for the subject matter specialists and carried out with the cooperation and close association of the scientific institutions and school administration. The professional advancement centers connected with the higher schools and institutes have sufficient space, continuously renewed specialized literature, as well as recreation facilities.

The utilization of the mass media in education and the advancement of the teachers is increasing. There is a special broadcast service on the radio and TV dealing with contemporary problems of pedagogics, psychology and other social disciplines. In 1973, the Teachers' Radio-TV University will be underway, primarily to educate the practicing teachers at the secondary school level. The conduct of the transformation processes in the domain of education must be based on thorough scientific research and more useful statistical data concerning the teaching profession. More integration should be accomplished in this kind of research and the Institute for Education of Teachers has been created for this purpose.

TEACHER EDUCATION IN FRANCE

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Primary and secondary school teaching is becoming an increasingly difficult job as young people, disturbed by the radical changes taking place in society and its mores, become increasingly demanding and restless. The functions and purpose of teaching are changing profoundly as a result. Against this background, attempts have been made by the Ministry of Education and the teachers' organization to re-think our teacher education system. It is indeed a process of re-thinking and not simply one of making adjustments. Although it might appear self-evident that future teachers must be given a solid grounding in the subject or subjects they are going to teach, it is necessary to reiterate the importance of the "academic" side of training, to use the internationally accepted terminology. It should be added that in France, which is a country with a tradition of intellectualism, the primacy of academic work in the training of secondary school teachers has never been challenged, but it was not extended until October 1968 to the training of primary teachers who were required to have no more that the *baccalaureat* up to that time.

Pre-Service Training for Primary School Teachers

In 1946, when the training colleges closed by the Vichy Government reopened, the training of primary school teachers consisted of three years of preparation for the *baccalaureat* plus one year of professional training. The teachers' organizations, however, had long been asking for a professional training lasting two years. The Government finally conceded these two years of professional training after "the events" of May 1968, and it was agreed that a part of the training of primary school teachers should be at the level of higher education. Thus, from the start of the academic year in October 1968 the course was lengthened by a year and part of their training in mathematics and linguistics is now at an advanced level. The ministerial commission on the training of primary school teachers came to a clear-cut decision that the two-year stage should be rapidly superseded and replaced during a transitional period by a three-year professional training course, to be followed, finally, by a four-year academic training program plus one year of professional training. The introduction of this new system will certainly take some time, which can only be shortened if the Government makes the necessary funds available.

In addition to the changes in the length of the courses, changes have also been made in their content, based on the following fundamental ideas:

(1) knowledge essential for a *polyvalent* kind of teaching: linguistics, mathematics, and basic notions of methodology and epistemology;
(2) knowledge of the child and the adolescent: instruction in these subjects should primarily provide the teacher with a clearer idea of what he is doing. Although psychological studies are a key element, they are not to be thought of in any way as a form of specialization. The idea is essentially to provide the prospective teacher with the psychological frames of reference and tools of analysis which he needs for a clearsighted approach to his role as teacher and educator;
(3) the study and application of methods and means of education and instruction, linked with educational research;
(4) physical education, handicrafts and aesthetic education;
(5) the practical study of a modern language;
(6) consideration of the ends and means of all education: social anthropology and philosophy of education.

To complete this rapid outline, we should add that during the first year of their professional training, pupil teachers spend short periods becoming familiar with the work of the various classes of primary or nursery schools. The first term of the second year is devoted to teaching practice during which they assume responsibility, for three months, for a class whose normal teacher has volunteered to take a refresher course at the training college. During this period, the pupil teacher is directed, assisted and advised by the staff of the school, the lecturers from the training college, the inspectors and their educational advisers. In addition, the class's usual teacher comes back every Saturday morning to see the student teacher and to ensure, in this way, a certain continuity.

In-Service Training for Primary School Teachers

Since the start of the academic year in October 1969, a certain number of primary school teachers have, on a voluntary basis, been taking three-month refresher courses at the *departement* training colleges while student teachers take over their classes. The first point to note is that the number of volunteers has always been greater than the number of places available. The purpose of these courses is to give teachers a detailed and well-documented introduction to the new objectives of primary education. This is made necessary by the raising of the school-leaving age and the fact that secondary education is now available to all, by the need to prepare children for life in a world which is constantly changing, and the increasingly strong influence on their education of what has come to be known as *parallel education.* A clear understanding of these new objectives and the practical reasons for them also throws light on the changes in content which have been recommended for certain subjects. Those following the refresher courses must take not only the specific nature of the subjects but also their interdependence into account.

Study of these vital theoretical aspects of the various subjects must always lead to practical applications in education. Teachers attending the courses are therefore urged to reconsider the aims, educational significance and the demands of genuinely practical methods and to practice using various audio-visual aids. The theoretical considerations and ideas must be continually compared with the practical realities of educational activity in the primary school. A large proportion of the course is thus devoted to practical work, discussions, group research and team work. The aim of these in-service training courses is hence to provide a direct answer to the daily problems encountered by teachers in their actual work. The courses, however, aim for an impact not only on the teachers' techniques but also on their knowledge, attitudes and behavior patterns. The syllabus therefore takes account not only of the requests of those following the course and of the needs of the moment, but also of the general needs of education.

These courses have involved up till now no more than a minority of teachers, though a large one (21,500). The problem of their rapid and massive expansion had become a fundamental issue for the teachers' organizations, who wanted an improvement in the qualifications of all teachers and not additional qualifications for a few. In a reply in September 1971 to the Secretary-General of the *Syndicat National des Instituteurs* (primary teachers' union), the Minister of Education said that he agreed to the union's request that an in-service training plan should be studied, adding: "this plan will thus be the subject of a detailed study in which you will be asked to participate." After six months of negotiations between the Ministry and the union, the plan has been agreed upon. During his career, each teacher will be entitled to *one year* of further training in addition to his initial training. The plan will be fully operational within six years and calls for the establishment of supply teacher positions. On March 21, 1972, the Minister published the document giving the outline of the plan and indicating how it would be put into practice. The first batch of serving teachers to take a one-year training course should thus enter the training colleges in September 1972.

The Education of Training College Lecturers and Secondary Teachers

There has been no special training for training college lecturers since 1946. Their union, the *Syndicat National des Professeurs des Ecoles Normales,* has continually pressed for study of this serious problem and has continually put forward solutions. In 1972, the Ministry at last provided special courses for training college lecturers (three centers, 170 trainees, courses last six months) and shorter courses for training college lecturers and *departement* inspectors at the national level and by educational districts.

This situation is particularly confused in classical, modern and technical secondary education. Teachers may be recruited in a great variety of ways and training standards differ widely. To add to the multiplicity of categories thus created, there are also variations in salaries, working conditions, types of careers and methods of administration. The Ministry of Education has undertaken to remedy this situation, declaring:

> The aim in principle is to arrive at a training common to teachers in all branches of secondary education (long and short, general arts and technical) on the basis of four years at university, with the level of specialization which this implies, followed by one year of professional training.

Working on the basis of this statement of intent, a ministerial commission prepared and submitted a plan which was rejected by the universities and teachers' organizations. The Minister appointed a new working group which began sitting on March 13, 1972. On that occasion, the Minister concluded with these words:

> I hope to have your views within two months...Everyone in France is convinced of the need for an effort to renew the training of our teachers. I want you, by your work, to help me fulfill these expectations.

A few partial measures have, however, been taken over the last few years. In 1969, for example, the training of general teachers for *colleges* was extended from two to three years, that is, two years at a university plus one year of professional training. In 1970, it was decided that young graduate teachers with the *Agregation* would do a probationary year before being established, and this was instituted at the beginning of the school year in September 1970. During this year, the probationer takes responsibility for a class for five hours per week. In addition, he has to do three training periods under three different educational advisers. Lastly, the 1972 budget provides the necessary funds for doubling the length of the training course for teachers in *colleges d'enseignement technique* from two years to four.

News of Teacher Education in Kenya

A *Nursery School Education Project*, funded by the Bernard van Leer Foundation of Holland, was launched in October, 1972, by the Child Development and Research Unit of the Faculty of Education, University of Nairobi. The project, which will begin with a pilot group of 30 experienced primary teachers, is designed to develop a one-year curriculum for pre-school teacher training and to prepare teachers and supervisors of early childhood education. Presently, Kenya has 5,000 *Day Care Centers* enrolling some 200,000 children, but there is no prescribed curriculum and a dearth of trained personnel in this specialization.

News of Teacher Education in Argentina

In November, 1972, the first group of teachers will be graduated under the entirely new system of teacher education established in 1971. As described by Dr. Emilio Mignone, member of the ICET Board of Directors and a major speaker at the 1971 ICET World Assembly, the new system raises the education of primary teachers to the level of higher education where a two-year course is followed. Dr. Mignone pioneered the development of this reform as Under-Secretary of Education from 1969 to 1971.

At the National University of Comahue in Argentina, a new Department of Educational Science has just been created to prepare teachers and school administrators for all levels and to conduct educational research. Comahue University is located in southern Argentina near the Andes in a region which has experienced a major economic and demographic boom in recent years.

School Development and Teacher Education In Italy

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Rome, Italy

Today, the Italian school system is quite clearly undergoing a crisis. Not only the teachers and their pupils but also the educational authorities are agreed on this fact. Moreover, the political world has for some time admitted, without any significant exceptions, that fundamental reforms are necessary to remedy this state of affairs. If, hitherto, it has been possible to make only limited alterations to the educational structure, this has been due to the disparity of judgments made and attitudes taken by the political parties and within the school world itself. To this must be added the fact that Italy is currently experiencing all the upheavals of the major structural crisis which is the inevitable outcome of the change in the last twenty-five years from a predominantly agricultural economy to a predominantly industrial one. In this transformation, education is not the only sector displaying ruinous macroscopic defects and therefore in need of radical intervention. The urgency for a large series of reform measures in almost all the sectors of associative life has, perhaps, consituted a brake rather than a stimulus for change. There are, however, those who consider that the delays and uncertainties as to how to proceed must be ascribed to the lukewarm will for reform on the part of the establishment that has guided that country in the last twenty years.

The crisis afflicting the school is clearly a crisis of development. Roughly speaking, in the last decade the increase in enrollment has doubled that registered in the previous ten years. The trend is expected to be maintained in the near future and, in fact, the "School Plan" estimates that there will be a further increase of 1.5 million students in the five years from 1971 to 1976. At the present time, almost the entire population at the elementary level is attending school, whereas at the lower secondary school level the attendance index is around 70 per cent. The boom shows that in Italy there is in process a transition from a school system that tended to benefit only the more privileged sector of the population (the most well-to-do and the urban) to one which seeks to guarantee the less privileged classes access to the higher educational levels. But at present this process is barely sketched out. Larger sections of the society are beginning to benefit from a richer cultural patrimony; society is opening towards new popular cultures which have hitherto remained substantially outside the official cultural circuit. However, we have the impression that this process is evolving in the wrong way, from the social point of view, by integrating the values that have developed within the popular world, in a closed circuit and tainted by a low propensity for social equality. The boom, however, has occurred in an entirely casual way; there has been no organic development plan for education and the "School Plan" itself is no more than a hypothesis for development upon which neither the politicians nor the school world are called to give a considered opinion.

Italian Teacher Education In Transition

The only major structural innovation in Italy which has taken place since the war has been the development of the compulsory school or the segment covering eight years of basic education which everyone must receive, including five years elementary schooling and three years of lower secondary schooling. Many measures have been taken to secure attendance for the full obligatory period which have yielded some appreciable results. We have already observed that almost all school children complete the five years of elementary schooling and some 70-75 per cent the secondary studies. Up to now the *"Instituti Magistrali"* (Teacher Training Institutes) have been responsible for training, in four-year courses of secondary-level studies, the elementary teachers for the primary cycle. It is generally agreed today that such a course is insufficient to train teachers adequately and that in the future they must receive two years of university-type training. This was the conclusion, for example, reached by the study committee set up to reexamine the entire field of secondary studies. All the same, the elementary teacher is today trained as such and is assigned a post through competitive examinations. Of the 201,000 teachers of this level in state schools in 1969, only five per cent were not established, that is, had not obtained tenure.

Very different is the case of the lower secondary school teachers. Over half (58%) of the 158,000 in 1969 had no tenured positions; 46 per cent had not taken the state qualifying examination for teachers which university graduates are required to undergo in order to teach in the various types of schools. The lower secondary school, although it represents the higher sector of the compulsory school phase, is far from having achieved a settled order, since more that half its teachers are in a precarious position. The lower secondary school teacher receives no teacher training *per se* in the course of his university studies. He takes a degree course that will put him in a position to teach at the end if he so wishes, but he receives no training in the field of pedagogy, didactics, psychology, sociology or the economics of education that would enable him to enter teaching equipped with the educational knowledge now considered indispensable. As regards higher secondary education, the university does not train a teacher but produces a graduate in a given discipline such as biology, mathematics, engineering and the arts. The graduate can apply for a teaching post in the subject in which he has specialized or in other related ones. A certain stability in his career is obtained if he passes the state qualifying exam for teaching, in which it is not so much his didactic capacity that is measured as the general level of his knowledge in the subject in which he has specialized. The graduate obtains an established post once he has succeeded in the relatively competitive examination. In 1965, 73 per cent of the higher secondary school teachers were not established and 44 per cent had not even taken the state qualifying examination. In 1969, the situation had not substantially improved; the percentage of the former had gone down to 68 per cent and that of the later still stood at 44 per cent. A good two-thirds of the teachers, then, were and probably still are teaching in a temporary capacity.

The Biasini Report And Comprehensive Schools

Apart from these numerical indicators, there are some other more subtle ones which have been the subject of careful study by a committee appointed to investigate the ills of the higher secondary school and identify remedies. The "Biasini Committee" completed its work a few months ago and in its report indicated the main lines for the reform of the higher secondary school system. The higher secondary school, it is recognized, has grown in a chaotic way; "professional" types of schools have proliferated and specializations have multiplied. In this manner, we have lost sight of a vital "cultural and educational principle," which must be re-introduced if we are to give a more "fundamental cultural unity to the country." The school must relinquish the awarding of certificates that enable immediate entry into employment, and devote more attention to a "process of cultural and methodological unification of Italian society." In practice the higher secondary school as envisaged in the "Biasini Report" will undergo an experimental phase that will last from six to eight years. The type of school foreseen will provide a five year program for all students. In the first two years, two-thirds of the teaching will be common to all the pupils, assuming that compulsory schooling will be extended from eight to ten years. The remaining third will be optional to give the pupils a chance to test and develop their particular interests and talents. The subsequent three year period will reverse these proportions, two-thirds of the teaching being given in optional subjects and one-third in a nucleus of common subjects. The target is to create a comprehensive school which will be achieved after experimenting with other educational plans as well. The higher secondary school as envisaged in the "Biasini Report" should provide pupils with a "cultural formation of a theoretical and practical kind capable of preparing them to face the problems of work and society." It will be up to the professional training institutes run by the regions to provide, on this cultural foundation, a true and proper professional training for the pupil leaving the higher secondary school.

The teacher appropriate for the comprehensive model will have to have a solid background in his specialty, as well as thorough preparation in the social sciences related to education, professional education courses, and the techniques of modern teaching methods. In short, what is needed is a type of teacher that does not as yet exist in Italy. To train him, it will be necessary to prepare and launch a wide-ranging program for the upgrading of teachers now in service which takes advantage of all the modern systems of communication such as the press, radio, television and informative periodicals. A large number of seminars on a national, regional, local and institute level will have to be organized in order to upgrade 12,000 teachers in three years. The courses will last a month and should enable those attending to grasp the most recent developments in the subject in which they teach and the related teaching methods. A subsequent experimental in-service period of fifty hours will then introduce them to the essential principles of education science. As regards the new entry of teachers, efforts will have to be made to ensure that before they leave the university they will be introduced to education science and then attend a year's qualifying course once they have graduated. The qualifying examination for teaching has already been abolished and will be replaced by qualifying courses which will start next September. The courses will last a year and should enable the teacher to become acquainted with the latest developments in his discipline and, above all, modern didactic techniques. The courses, which will be organized on a regional basis, will be developed essentially through seminars, practical exercises and group work. The seminars can also be proposed by the student teachers. The course, which will be given by particularly expert university faculty and higher secondary school teachers, will be completed by a final examination. Beginning from the year 1973-1974 only qualified personnel will be allowed to take up teaching posts. Obviously, as yet there is no experience by which to assess the soundness or limits of this initiative; it can be said, however, that the previous system of the qualifying examination has proved to be entirely inadequate. In this new phase, the emphasis is placed on introducing the teacher to the educational process. It aims at providing him with the elements essential for giving his work a solid and fruitful pedagogical basis rather than measuring the level of his specific knowledge of the discipline to be taught.

If the ideas are clear, the details of how to convert them into practice are not. At the moment much reliance is placed on the imagination and the willingness to innovate of at least a part of the teaching force. It should be pointed out that this new movement has not been reached quickly. For over a decade the various types of schools (senior high school, *liceo,* technical and professional institutes, art schools and elementary and lower secondary schools) have been experimenting with pilot courses for more modern teaching in the various subjects. A beginning was made with the introduction of PSSC in physics teaching in a limited number of classes at the higher secondary level, a program which had been recommended by the OECD and was favorably accepted within the university and some sectors of the higher secondary school. The method was adapted to the Italian situation, seminars were held to train the teachers and from the beginning of the 1962-63 school year, pilot courses were started. A similar move was made regarding mathematics. Since then, teaching according to the new method has been extended and as of 1970, 670 teachers and 55,000 pupils have been involved in pilot courses in mathematics and 470 teachers and 28,000 pupils in physics. Further courses were started (1963-64) for chemistry in which, by 1970, 425 teachers and 25.000 students had taken part. Since 1967, pilot courses in biology have been undertaken in a scientific high school (lugo, Bologna) in which the entire field of scientific teaching was changed according to the new criteria, with care taken to coordinate the didactic techniques and the teaching programs. The experiment has been judged to have been a success. Special seminars for the training of technical assistants have also been organized and careful attention has been given to the choice of laboratory equipment. Three central laboratories have been created (at Foligno, Lugo and Reggio Calabria) which today serve as true and proper didactic and research experimental centers for the science teachers in higher secondary schools.

More recent initiatives of a similar kind have been undertaken in the humanistic disciplines. In collaboration with the Goethe Institute, the British Council and the French Cultural Service, didactic courses for foreign languages have been given in which use is made of language laboratories. Two higher secondary schools have been equipped with this apparatus and now serve as "central laboratories." Work sessions have been directed to up-dating the teaching of civics and the Italian language. Subsequently, during a seminar in 1971, an attempt was made to establish an inter-disciplinary basis for the teaching of the humanistic subjects in the classical high schools. Lastly, a few months ago the experiences gained by the teachers in the humanistic and scientific fields were compared at a seminar in which an active part was taken by a number of pupils who had experienced the new methods. There was agreement on the usefulness of giving teaching a historical slant and developing the various subjects along the track of their historical relevance. According to this point of view, every historico-cultural event should be compared with the parallel development of society in scientific, technical and economic fields as well as the social customs of the time. The study of the Italian language is seen as an opportunity for creating a frame in which the elements of the historical reality are contained. The teaching of the sciences is seen as a means of helping the pupil to develop a speculative and operative logic, from the experiment to the law and its verification.

Conclusion

This series of attempts at didactic innovation, conducted prevalently and in a more committed way within classical education (the scientific and classical high schools), was initiated on the basis of a conviction: that the school is awaiting a radical reform, in Italy as elsewhere. In this perspective, to experiment with the new methodologies of teaching and techniques of learning cannot but encourage the process of change. The attempts at innovation have been finalized in the sense of making teaching relevant to the maximum degree in order to take into account the social realities expressed by society. In this way it is possible to meet the need, so profoundly felt by students, to relate to their own times every new element of knowledge offered to them. The vicissitudes of our society are, it is considered, definitely worthy of study and thought in school.

The total for all educational services at the high school level, including in-service education, amounted last year to about four million dollars, a figure which is regarded as entirely inadequate and which does not enable the changes being pressed for on many sides to take place. In an official document of the educational administration some time ago it was explicity admitted that "the efforts at up-dating that have been made so far have not had an organic character" to the point that their efficacy is called into question. They must rather be considered as courses of "general information," tending at times to be fortuitous and even "lacking in motivation." If the sums involved are modest, it must be concluded that the results are even more so. The steps taken so far are limited to the creation of an "updating service" within every level of instruction, which acts as an instrument of the planning office of the Ministry of Education. This office is planning to develop a very ambitious modernization plan. It has been hoped this year to get a measure through that would have made an important contribution to the renewal of school education; an allocation of about 17 million dollars would have allowed the establishment of three centers for educational innovation (in Lombardy, Tuscany and Campania) where concrete programs of didactic experiments would have been carried out and much up-to-date material collected concerning the new educational technologies. It would also have been possible to establish elsewhere a center for the development and production of educational software and a third one for high level documentation and research in the field of education.

The extreme fluidity of the political situation has prevented the implementation of these good intentions, although the funds necessary were already allocated. We have here one of those cases frequent in the reality of any country, but so particularly typical of Italy; we progress according to a strange succession of dance steps, one forward and one (or perhaps more) back! It must be noted that the allocation for 1973 is particularly large: 28 million dollars. The "School Plan" expressly proposes a genuine pilot project for the upgrading of teachers. Three levels of intervention are indicated: the school unit, the regional level linked with the university and the national level. To the first level will be assigned the development of the "function of support for creativity," to the second two, the functions of research, the organization of innovation and in-service education. The proposal is in the form of a general plan; as such, it contains the indications of the aims rather than the operational details. It shows the intentions rather than providing a true and proper working plan.

The problem of education is certainly very much to the fore in Italy today. Other countries are looked to eagerly and ideas are developed concerning planning issues, even within the political parties themselves. The pressure coming from the students, which in recent years has been considerable, has served to provoke thought and to start moving some of the cogwheels of the complex machinery in the educational structure. Certainly, the ideas are now much less confused than ten years ago. The pressure of the reality, with its huge numbers and mass of unsolved or badly solved problems, has brought the question of the schools to the forefront at the political level. The passage towards reform is, however, slow. Many of the faults referred to here were already outlined five years ago in an analysis carried out by the OECD on the state of the art of education in Italy. The time that has gone by since then has not been sufficient to eliminate or even attenuate them. These delays appear even more unjustifiable if we also remember that it is now almost everywhere recognized that the educational sector assumes a critical dimension from the very first years. Must the first level teacher confine himself, as he always has done up to now, to transferring knowledge to his pupils, or can he rather develop a plan tending to encourage them to critical research and invention? It is probable that a new type of primary and secondary teaching will develop along these lines. It remains to ask how it will be possible to give effect to such a direction, what it would cost and what changes it would impose on the educational structures. But it is a fact that today the entire educational cycle is under discussion; to refuse to take a long-term view would certainly be extremely deleterious.

TEACHER EDUCATION IN THE FEDERAL REPUBLIC OF GERMANY

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Historical Background

The reform of teacher education in West Germany has undergone three phases in the past five years. The motivation for reform of the institutions and concepts of teacher education grew out of a period in the early sixties of severe criticism of the structures of traditional teacher education. Between 1965 and 1970, a consensus was formed as to how the principles and structures of a new system of teacher education should be shaped. The time since 1970 has been a period of experiments and investigations on the implementation of the new system. The critical voices that arose against the traditional system of tripartite teacher education in West Germany at the beginning of the sixties were connected with a general period of criticism against the traditionalism which was characteristic of the educational system reconstructed after World War II. The old educational system was based upon early selection between the more or less "talented" and upon the ideology of talent given by nature and hardly affected by education, thus affirming social discrimination and inequality of opportunity. This traditional system was definitely unable to cope with the educational needs of a developing economy and proved unable to meet the new social and political demands that were raised at the same time by groups of social and educational reformers, including students, some teacher organizations, trade unions and internationally minded pedagogues and scientists. These aimed at fuller democratization of educational opportunities, freedom of personal development, free access by everyone to higher education, free choice of profession and qualification level; all that had been incorporated into the liberal constitution of the *"Bonner Grundgesetz."*

The teacher education system reflected in its own structure all the insufficiencies of the whole educational sytem. According to the historical divergence between "general" and "professional" training, the education of teachers for professional schools had almost nothing to do with the training of the general teacher, although it took place partly at the same universities. There were different faculties responsible for it and they even developed a specific "professional" pedagogy. The group of general teachers, moreover, was divided into three categories: (a) teachers of the *"Volksschule"* or fundamental school (comprising only the first four years of schooling for all children and another four or five for those who did not enter one of the "higher" schools), were educated in a two or three years course at one of the "Paedagogische Hochschulen," which only since the beginning of the sixties began to approach a scientific level of studies and investigation in the field of education and didactics. (b) teachers of the "higher" school of the *Gymnasium* were trained at these universities in a rather "free" and unprofessional study system, centering around the subject fields of languages, history and natural sciences. During their studies they did not learn much about their professional task, its social and political implications and the appropriate methods to fulfill it; only after their studies did they enter a state professional school *(Studienseminar)* and become acquainted, under the guidance of practicing school teachers in a short course, with the main practical needs and circumstances of the teaching profession. (c) The teacher of the *"Mittel"* or *Realschule,"* a more professionally oriented type of secondary school, would either follow the first system with more intense studies of subject fields or the other path leading to a wider knowledge of pedagogy. The salaries of teachers reflected and reaffirmed this social differentiation; almost all of the teachers were state officials, but the *Gymnasium* teachers had better salaries and benefits than the others.

The Reformist Concept of the Late Sixties

The first marked feature of the reformist concept of the late sixties in teacher education is a growing trend towards federal unification of the structure and organization. According to the constitution which made teacher education the responsibility of each *Land,* former teacher education laws and reform measures before 1965 had gone in different directions, and the conference of ministers of culture of the eleven *Laender* had never effected more than loose cooperation and conflict management. In 1965, the ministers themselves, pushed by public opinion as well as by the Social Democratic Party and, finally, by industrial lobbies, set up a permanent consulting body, the *Deutscher Bildungsrat*, which was composed of scientists, educators, group representatives and administrators and charged with the task of elaborating an overall reform program for the whole primary and secondary educational system, including the education of teachers. A similar body had already been in existence since 1957 for research and higher education. Additionally, in 1969, the constitution was changed and the federal government given a "frame" competence for educational planning together with the *Laender*, which since then have been represented, with the expert bodies mentioned, in the so-called *Bund-Laender-Kommisson fuer Bildungsplanung*, working on detailed measures and financial programs.

A second marked characteristic of these plans and reform programs is a tendency toward more integration and finer differentiation of the whole content and structure of teacher education, as discussed in more detail by my colleagues on pages 42-49 of this volume. One can see that the teacher is being educated today for a period of twenty, thirty or even forty years, during which time the school system and the educational concept of society will undergo numerous changes. Training aims and concepts are changing from primarily cognitive aims toward affective and psychomotor "attitudes", and there must now be a much broader basis of training for all the different types of teachers. Finally, there follows the need for much more opportunity for training and retraining on the job and for intermediate phases of retraining at the institutions of higher education; the continuing education of teachers in-service has to be integrated as an indispensable element in the training concept of all teachers.

The common basis for all teacher education is a third element of the consensus about needs and priorities in the reform of teacher education that has been established by the work of the *Bildungsrat*. As S.B. Robinsohn once put it, "all teachers are teachers". As teachers, their professional identity and self-concept should be centered around their educational tasks and the essential socio-political role which they play in present day society as well as their role in shaping the personal life and self-realization of every individual. It follows that the educational functions of teaching and the teacher have to be the center of his training, as well as the changing and shaping of his self-concept and his attitudes in teaching and learning situations. In other words, "affective moments" have to play a much greater part in the education of the teacher than they have been playing hitherto. No longer will the future teacher be educated for different types of schools offering different educational opportunities for children of the same age. There will be the primary school teacher for ages from six to ten years, the lower secondary school teacher for ages ten to fifteen, and the upper secondary school teacher for ages fourteen to fifteen. The integration of the professional school and, accordingly, the professional school teachers would also be a consequence of the reform of the school system. It should be stated, however, that this is still a much more theoretical consensus than a practical reality.

The basic curriculum for all future teachers will be composed of four fundamental elements, and this is the fourth element of a consensus established during the late sixties. The first element will be studies of educational science and those social sciences concerning the activities and the role of the teacher, such as educational sociology, educational psychology, learning theories, evaluation, and political sociology. For every teacher, this shall comprise about a third of his studies. Included in this element shall be a critical revision of the student's concept of his own role as a teacher and his own motivation for choosing this profession. The second element will be the study of subject fields relevant to the future school. There is, however, a general revision of the school curriculum itself, which naturally will have a great impact on changes in the training curriculum for teachers. The social and political sciences, including basic information about economic structures and trends, have already been integrated into the school curriculum on the secondary level. This is only one example of the changes in school and teacher training curricula which are envisaged in other subjects as well and which may lead to quite a new differentiation of subjects and sciences in the teacher training institutions.

Part of the momentum leading to this revision of curricula has been given by the third major element of all teacher training concepts, an element which in German is called *"Didaktik"* and which might be translated as a sort of "school curriculum science". This branch of the educational sciences has been developed for more than a decade, especially at the *Paedagogische Hochschulen*, to develop and evaluate the methods of school learning and teaching, to investigate the individual and social learning

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processes in the school and finally to enable the teacher to draw all these elements and insights together in his own task of planning and evaluating the day-to-day learning process of the children and his own teaching activities. Finally, as a fourth basic element, the practical and professional training of the future teacher is given much more weight in the concepts of the new teacher education. A specific element in this development is that periods of practical experience and "taking-the-job" for a limited time, under supervision and under the critical eyes of other students, will be inserted into the course of theoretical studies at various phases, with rising intensity and greater self-responsibility toward the end of the studies. Formerly, this has been the case only in the *Volksschullehrer*, whereas the teacher of the *Gymnasium* took first a full course of theoretical studies with no practical experience, and afterwards a full course of practical training with no theoretical criticism. Now, there will be a close connection between elements of practical experience and training and elements of theoretical study and empirical investigation, and students themselves, especially in group and team work, will be responsible for planning and investigating the learning process at school, under the supervision and consultation of experienced teachers and pedagogical scientists.

There have been, of course, deliberations as to whether a combination of studies of such weight and content is not too much for the average student in a course lasting only three or four years. At present, the study time for most of the students of the *Paedagogische Hochschule* is three years minimum, followed by a time of partial responsibility at a school accompanied by a few theoretical courses. For the student teacher at the university the minimum time is four years, which is always prolonged considerably in reality, followed by practical training in the school and the *"Studienseminar"*. Those who defend the model described above maintain that in the new training curriculum the time of practical training is integrated into the program of studies, and therefore four or five years may be considered as a reasonable period for the preparation of a fully trained teacher. On the other hand, this period might be lowered considerably if a new model of teacher retraining on the job is established. Under headlines like *"Kontaktstudium"* or *"Weiterbilding"* this issue has been discussed for a long time as one of the focal points of university reform, but, unlike other issues, it has not received any practical solution.

Trends in Implementation of the Reform

In 1970, a report of the Federal Government was published which accepted the basic principles of educational reform, elaborated above, by the *Bildungsrat*. The Federal Government, together with the *Laender*, set up the *Bund-Laender-Bildungsplanungkommission*. A new Federal law on the status and organization of all institutions of higher education was prepared after a broad public discussion and submitted to parliament toward the end of 1970. One of the decisive trends of that period was the tendency towards reorganizing higher education as an integrated system. This means that different branches of higher or "tertiary" education will be systematically evolved and differentiated within one institution. The students' choice of professional and scientific training might be more rational and more easily correctible if the consideration of lower or higher prestige, inevitably connected with the existence of different institutions and varying length of studies, was eliminated, and the resources of teaching personnel, buildings, equipment and scientific apparatus utilized more economically.

Other trends of political development have been less favorable for the line of reform. It is an undoubted fact that, for several reasons, there is less readiness for reform among state administrations. Firstly, industrial and economic power structures, formerly among those who pushed for the reform, have observed that those who learned or worked within the educational system itself have begun to raise new questions concerning the sense and spirit of the reform and have called for more democratization within the educational system itself and a true orientation of reforms along societal needs instead of mere stabilization of productivity, industry and commerce. Therefore, the industrialists are today among those who want to "contain" the reformist movement. Secondly, the *Bildungsrat's* program began anew to discuss not only means and measures, but the aims and content of the reform itself, especially because the representatives of the two leading parties, being in opposition to each other in the *Bund* and in almost all of the *Laender*, met each other here for the first time on the central questions of the educational future. Thirdly, the social democratic and liberal federal coalition, having started a series of major social and democratic reforms, had soon discovered that the extent its political and social action was limited, owing to the private enterprises and to private ownership of much the production means. At present, educational reform is not among the priorities. There is also a conservative resistance to educational reforms within the educational institutions themselves. Strangely enough, the deliberations of the *Bildungsrat* have been taking place without any participation of those who would later have to carry out these reforms or suffer from them, that is, those working and learning in the institutions. The discussion began anew when the *Bildungsrat* and the *Wissenschaftsrat* published their findings in voluminous books. Teachers, students and other personnel in the institutions of higher learning tend to identify themselves with the scope and aims of the reforms, but this reformist spirit, however, is combined with a general anti-governmental tendency which is directed especially against measures of intensified state control over the institutions and the programs of educational reform.

It should be borne in mind that curricular reform was not the starting point for most of what is now appearing as a critical revision of the universities' curricula in those fields that are relevant to teacher education. The impulse behind this movement was a criticism that reached far beyond the question of didactic relevance of studies and into the question of how scientific research and training is utilized in a capitalistic society. This impulse has lead to marked reorientation, for instance, of historical studies in which today the focus is laid upon the social and economic basis of historical events, and the problem of how political judgement and political responsibility of the individual can be strengthened by historical studies. Another example is presented by developments among the discipline of German literature and language. Traditionally, this discipline centered on the history and interpretation of great literature. Now, "Germanists" have recognized the relevance of linguistic research and language training for the development of the young individual and for compensation of the educational gaps of early childhood. There is a movement to give linguistic studies far greater importance in the curriculum of future teachers, which would lead inevitably to a reduction in studies of literature and history. Much greater weight is being laid upon modern literature, but also on other printed matter such as newspapers, *"Trivialliteratur"* for everyone, and so on.

It has been explained how much the *Didaktik* component of the curriculum contributed to bringing about a new understanding of the role of the teacher and a critical revision of his training and the relevant curriculum. The question now is how to bring didactical reflections and research in this field to a position where the work of few people will be accepted by many. It is important that didactical reflection is not the task of a few who afterwards would have to prescribe to others how to understand their own jobs and how to understand their curricula. On the other hand, although there has been a longer tradition of didactical work in the *Paedagogische Hochschulen,* much of the scientific work is still to be done, and there are only a few experts in this field. Here the tendency of integrating formerly separate institutions into one, the launching of *"Gesamthochschulen"* and the cooperation between universities and *Paedagogische Hochschulen* has given opportunity to place didactical work and development for a new teacher training curriculum in a key position. At various places, the establishing of *Gesamthochschulen* has begun by setting up working or planning groups for didactical work and curriculum planning. These are groups composed mostly of younger and reform-oriented people who are not at all specialist but who start from the conviction that a revision and reconstruction of teacher training.curricula has become necessary and that this should be done together with students and professors who work practically and theoretically in the field.

Since the work of the *Bildungsrat* and the reception of international research and reform models on teaching and teacher training, it has also been realized in West Germany how much the traditional model of teacher training has been centered around the mere accumulation of knowledge and how much the attitude and ideology of a teacher, based on the priority of knowledge, favors school children with middle class backgrounds. There has been progress in this field, especially at some *Paedagogische Hochschulen,* but the whole complex attitude towards teacher training is still more a theoretical question than a practical issue. Experiments have been made with new teaching and training methods in *Paedagogische Hochschulen,* for example, with methods of micro-teaching and with the supervision and critical evaluation of one student's teaching by his comrades in special schools, with audio-visual arrangements and equipment and the like. The latter equipment may exist today in most of the *Paedagogische Hochschulen,* but there is still too little experience with these resources. The most visible effect of the change of attitude is probably the fact that the traditional lecture has lost much of its importance as the central form of teaching in the higher education institutions; seminars and small groups have spread widely, the spontaneity of the students is being encouraged, and from the student side comes the wish to invest and try new forms of learning involving collective forms of work. On the whole, one can say that today the problem of "focus on teaching attitudes" is still kept much more alive by the criticism of students than by a genuine reform movement.

The problem of integration of theory and practice, of studies and concrete teaching experience has been similarly brought into the discussion both by student criticism and by concrete experiences and experiments of the *Paedagogische Hochschulen*. The concept, however, of a direct integration of practical training and experience into the phases of theoretical work, which would lead to the abolition of the second phase of teacher training at special *"Studienseminare"*, has been worked out first by one of the leading comparative educationists in West Germany, who introduced the term of "clinical" studies or "clinical" semesters. Some of these proposals can also be found in the concept of a so-called *"Projekstudium"*, which might be translated as project-centered studies and which has been introduced as the leading principle of organization at the newly opened and reformist University of Bremen (see page 45).

Continuing Education

Unlike many other countries, the problem of continuing teacher education has not played a great part in the implementation of teacher training in the German Federal Republic. Traditionally, a teacher might any time return to the university and *Paedagogische Hochschule* to continue his studies, but without any payment and without opportunity to gain new qualifications and certificates, except for the doctorate at the university. Several of the *Laender* have established central regional institutes for teacher retraining (*"Lehrerfortbilding"* or *"Lehrerweiterbilding"*), where teachers might apply individually for participation at weekend conferences, or one week or fortnight courses on a variety of subjects. These courses range from very general information and discussion about political, social and cultural issues to detailed information and work on new subjects such as traffic education, sexual information and education and the like. There is no evidence and hardly any evaluation as to how effective this old-fashioned type of teachers' continuing training has been.

In the major plan for a teacher training reform by the *Bildungsrat* and some decisions taken by the conference of education ministers of the *Laender*, one principle is that every qualification gained by fundamental training should be enlarged, either by refresher courses, or by adding new qualifications for other phases of school activity or for specific tasks within the school, or else by studying more intensely certain subjects than had been possible during the time of pre-service studies. This additional or enlarged qualification may either be gained immediately after the pre-service studies, or else after some phases of professional teaching in the schools. But it is obvious that application of this principle for a large number of teachers would require more funds and involve a considerable restructuring of the existing system of higher education. A great many discussions have taken place as to whether the problem of continuing training and retraining of teachers and other graduates of higher education could be solved by using a system of audio-visual media, including television, radio, films, and programmed instruction. This has been discussed under the headline of *"Fernstudium in Medieverbund"* (study by correspondence combined with media). In the meantime, it appears that the use of audio-visual media for educational purposes raises a number of problems even in class teaching without considering the problems involved in study by correspondence. On the whole, there is still much research to be done before one can count on audio-visual media as a relevant instrument for continuing teacher education.

In summary, one has to state that little attention is still paid in West Germany to the whole problem of the continuing education of teachers, as well as that of other professional groups. This shows how little the public and even the experts are convinced that the future society can be an educated and educating society. There is still a tendency to keep to the old concept: a man must be educated and trained for a certain profession from the beginning of his school time until the end of his studies in a continuing process without gaps, and then he will be more or less "ready for life" or "ready for the job". Continuing training and retraining is considered essentially as a personal responsibility of everyone.

The objectives pursued at present by the West German educational authorities are to get more and more people into increasingly larger institutions of initial education and professional training under conditions of rational organization and utilization. Too little resources, however, are devoted to research and there is not enough determination to undertake the necessary structural reform and fundamental revision of aims and ideologies. Under these circumstances, no one can tell whether a real educational reform will take place and whether a new system of teacher education will be developed.

III

SYSTEMIC REFORMS IN THE STRUCTURE, CONTENT AND PHILOSOPHY OF TEACHER EDUCATION

Integrated Teacher Education: Problems in the Reform of Teacher Training in the Federal Republic of Germany*

Introduction

Arguments for the controversial educational reform begun in the mid-sixties in the Federal Republic of Germany are based by some on socio-political factors and by others chiefly on factors of educational economics. In either case, the demand for a fundamental reform of the training of teachers is in accordance with the demand for a fundamental reorganization of the educational system. Up to now the courses of study for teachers were oriented to the various school types and have differed in their duration, content, areas of concentration, underlying pedagogic ideals and in the educational institutions where the training takes place. These courses of study should be combined or "integrated" into a single educational pathway which is equivalent in its scientific foundation for all groups of teachers, which has a standardized structure and which clears the way for certain alternative areas of concentration based only on the "levels" of the future educational system. Accordingly, *integrated* teacher training means standardization and organizational consolidation in the training of all teachers, and their adaptation to the structures of the future comprehensive school system.

If the old system of teacher education is to be transferred into this new, reformed structure, then innovations will be necessary in several areas. The training curricula for pedagogical professions should be revised and developed further on the basis of analyses of the present and future professional field and the educational component must be standardized in its content and organization. The reciprocal relationship between theoretical instruction and practical training has not been guaranteed in the past; theory and practice have not been able to adapt to or to permeate each other. This relationship should be established by *project-oriented studies* and by experiments with models; the two phases of the teacher's complete education, the one concerned with theory, the other with practice, should be combined into a single whole. The education of teachers should also be further differentiated and augmented by more intensive efforts toward in-service training so that theory and practice may be more closely integrated in this aspect as well. The institutions of teacher education, teachers' colleges *(Paedagogische Hochschulen)*, universities and advanced training centers *(Studienseminare)* as well as the establishments for in-service teacher training should be unified into a comprehensive system of higher education. This paper presents brief reports on these various approaches to innovation. In addition, the complex of problems arising in the practical training during the phase of transition to the new system will be presented. A number of societal conditions will be indicated which positively or negatively influence the reform of teacher education.

Analyses of the Professional Field and Curriculum Development

The necessary point of departure for any revision of the teacher training curriculum is an analyiss of the professional field and its changing aspects. Two different sets of expectations are directed today toward the role of the teacher. On the one hand, the teacher is expected to manifest socially determined role behavior, which bears the stamp of the prevailing social norms of his realm of work and life. As the bearer of the professional role of "teacher", he is charged with an educative activity which is defined in its intention and functions within the micro-social system of the school. On the other hand, the teacher largely sets his own goals on the basis of his own individual criteria,

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and indeed this is expected of him. The teacher recognizes this individual setting of goals to be a determining factor for his own professional behavior for this concept has been touched on in the literature of educational science. It is these self-determined behavioral goals which take on increasing significance in the professional situation in which the social role-expectations change or are thrown in doubt, as for example when the teacher desires to take on the role of organizer of "emancipatory" learning processes. By and large this is the existing situation in the controversy on educational policy in the Federal Republic.

In light of the results of recent empirical investigations it seems that the criticism often raised in the sixties is justified, that is, that the organization of the learning process in the traditional school system is structured according to social class and does not meet the demands of a truly democratic society. As Dr. Mueller indicates in his paper (pages 38-41), this criticism led to the demand that the curricula be revised toward the goal of increased democratization of society and thus of education, and that one had to begin to rethink styles of education and the effects of certain forms of social behavior on actual learning success. There is also the demand for equality of opportunity, quantitatively and qualitatively, and to place the consideration of goals and structures in the educational process under the central general goal of "emancipation". Accordingly, the German Education Council *(Deutscher Bildungsrat)*, demanded in 1970 in its "Structural Plan for the Educational System", that teachers in schools no longer be conceived of as transmitters of knowledge and skills, as in the traditional image of the teaching profession. Instead, the tasks of the teacher are described anew: "Problem-consciousness, problem-solving thinking and creativity are to be developed in those who are learning." Under this priority, the learning individual in the school should be helped above all in his own personal development and in the self-determination of his thoughts and actions in society. The students should acquire knowledge insofar as it is significant for confrontation with the environment. They should develop capabilities and skills; they should therefore practice cognitive and manual operations which are necessary for the acquisition of this knowledge, and these operations should enable the students to deal autonomously with new phenomena. The students should develop and intensify patterns and norms of behavior, especially those of cooperation; the attainment of this goal will be facilitated if cooperative forms of learning and differentiated forms of work are experienced.

If one accepts as the highest educational goal learning how to learn and defines instruction as a self-determined process of assimilative acquisition by the students, then this leads to the following complex conception of the role of the teacher. The teacher should *organize* this process of acquisition and thus be able to plan, implement and evaluate the process of instruction. In his work the teacher must take into account the peculiarities of the area of learning and the guiding framework of the school administration, but within this framework he has the task of instructional planning, not only of selecting and reselecting the topics, but providing the specific, concrete steps for learning and discovery. He must convert basic curricula into learning processes; and his teaching and learning methods should at the same time be conducive to the development of cooperative behavioral patterns in the students. Secondly, the teacher must convert this planning into instruction which has either been developed independently or in a team of several teachers. The teacher will have to react in a way that is pedagogically correct for every situation and decide flexibly in every case for one or several of the following roles. He could be:

- the tutor, who counsels the students seeking advice and gives them suggestions for the continuation of their work.
- the advisory expert, who explains difficult subject matter including relationships with other problem areas;
- the trainer, who drills cooperative behavioral patterns;
- the evaluator, who should determine and measure learning progress;
- the organizer, who tries to mold the entire process of instruction as effectively as possible with the help of the students and possibly of other teachers in order to motivate the students to the best possible acquisition;
- the discussion leader and co-worker.

In the third place, the teacher must evaluate the instructional process to establish the relationship between the planned instruction and the instruction actually realized. The reasons for the success or failure of a planned instructional attempt should become clear to the teacher and the students, and they should then be able to seek possibilities for improvement in a common effort. If the teacher is to accept this comprehensive task, it is necessary that he receive a scientific and professionally relevant education.

Standardization of the Educational Concept

A professionally relevant education requires a standardization of the concept of education if the professional activity itself is to be unified, despite the differentiation within the role of teacher. Such a unified, but not uniform, practice of the profession is being developed now in the integrated comprehensive schools *(Gesamtschulen)* which are presently being established in the Federal Republic of Germany. There are, however, teachers working in these comprehensive schools who have had training of varying duration and of varying content and who are paid varying amounts. The *"Studienrat"* teacher in the upper and intermediate levels of the *Gymnasien* has in general completed a course of study, the duration of which has only recently been fixed, of two to three subjects at a university. He receives the highest salary of all teachers and has the lowest number of obligatory teaching hours. The secondary school teacher *(Realschullehrer)*, who in part teaches students of the same age as does the *Studienrat* but in a different type of school, has either completed a short course of study at a university or a four-year course at a teacher's college. He is less qualified in his subjects than the *Studienrat*, but must teach more hours and is paid less. The elementary school teacher *(Volksschullehrer)* who teaches the mass of pupils from the first through the ninth years, is prepared for his profession in the shortest course of study at the teacher's colleges, which are affiliated with the universities in several of the Federal States. He has the greatest number of teaching hours and the lowest salary.

The joint practice of the profession in the integrated comprehensive school, which assumes the tasks of the formerly separate types of schools, shows extremely clearly the obsolescence of this separate education of the various groups of teachers. The teachers pursue common aims and are confronted with the same tasks and problems; the varying age groups of the teachers do not justify such basic differences in the conception of their education. In fact, the differences in regard to qualification, salaries and workload, in spite of equal responsibility, are frequently the cause of conflicts and disputes among teachers. The disadvantages of the differing education backgrounds become especially evident when the teachers are faced with the common task of developing units and basic components of the curriculum. The teachers must then work on common teaching units which overlap the limits of the subjects and ages. They must operationalize general and specialized teaching goals and they must standardize and summarize their procedure and the possible forms of the instructional organization. They must critically examine their own behavior as teachers and concurrently investigate their educational performance, continuing their own education on the basis of this critical investigation. Teachers in comprehensive schools who experience first hand these dificiencies of the existing divided teacher training system are among the most dedicated advocates of reform in teacher education. In part they have begun to eliminate the actual differences in their roles in the comprehensive schools, including the varying number of obligatory teaching hours and the varying salaries. In addition, numerous instances prove that teachers with personal experience in comprehensive schools are also active supporters of educational reform in other areas as well.

The Relationship of Theory and Practice; the Concepts of Project Studies and of One-Phase Training

With the exception of the reform models which will be described below, the present forms of teacher education as practiced in the Federal Republic of Germany do not take into account patterns of action in which the *professional reality* is both perceived and prepared for. Especially at the university level, study is based on individual scientific disciplines; during the training in these disciplines the action potential of the future teachers is absorbed and thus misdirected. In a second phase of professional training, in the advanced training centers, the future teacher is exposed directly to the pressures of the professional field. Whatever cognitive or affective predispositions he may have acquired in the various disciplines cannot be converted in this situation into operational outlines with which the future teacher could begin to solve concrete professional problems. He begins learning anew, and now he learns exclusively on the basis of a schema of stimulus and reaction determined by the given work situation. If the future teacher ever becomes aware of and suffers from the discrepancy between this real activity and the notions and ideals which he acquired earlier in the individual disciplines, then he usually solves this problem by accepting the compromises prevalent in actual professional practice, to the detriment of his own ideals.

A number of consequences can be drawn from these considerations if one is seeking an integration of theory and practice and an innovative orientation in teacher education. First, the student teacher must really be motivated to develop generalized operational outlines for his professional field during his training. Therefore he must have learned by the *beginning* of his training what the problems of the professional field are and what his role in this field is, at least by observation. Only in this way can he develop points of view with which he can question the contributions of various scientific disciplines in relation to the practice of the profession. Secondly, every problem dealt with during the education of student teachers must be related to the future practice of the profession. In addition, it must be possible to justify it in terms of a socially relevant statement of problems and it should attempt to transcend the narrow limits of the individual disciplines in content as well as in methods of treatment. Thirdly, because innovative action as described above is not exercised readily in customary school practice, experimental educational programs must be organized, directed and initiated in great enough numbers so that innovative operational outlines can be converted into practical examples. In addition, educational techniques such as the simulation of professional situations or games of planning and tactics must be developed and intensified. In this way the teacher can practice innovative behavior and develop sufficient flexibility for and resistance to the pressures of the professional situation. Efforts should be made to eliminate the existing situation in which future teachers very frequently adapt themselves in resignation all too soon to traditional practical forms of professional activity, although they are theoretically aware of the deficiences involved.

The practical realization of these educational goals is being approached under the concept of "project studies" *(Projektstudium)*, chiefly at the University of Bremen. In the "projects," that is, problem-oriented instructional activities, effort is made to establish contact between theory and practice from the very beginning of the course of study, to develop the future teachers' theoretical and practical abilities simultaneously and jointly, and to merge these two levels of teacher qualification together in a manner that satisfies the demands of the complex activities of the teaching profession. The problems which serve as the core of the projects derive from the teacher's subsequent professional activity. The orientation toward the real practical issues of the profession makes it possible to examine various components of the training–the individual sciences and their didactic theory, pedagogy, the social sciences–with regard to their meaning, their importance and their common integration. If it is possible with this practical orientation to discover and analyze the limits of possible change in the educational system of the society and if it is possible to develop and test strategies for professional action which go beyond these limits, then it will be possible in this training to sow the seeds of change in the practice of the profession. This concept of project studies is extremely important for the overall concept of integrated teacher training as proposed here because this approach can provide from the very beginning opportunity for a common course of study for teachers who will teach at different levels and in different disciplines in the schools. The training concept is the same for all teachers and during their training all teachers learn and analyze the essential aspects of the problems within the practice of the profession at the same time; in this way the groundwork is laid for future cooperation and solidarity in the subsequent professional practice.

The Bremen model of teacher training makes distinctions between several forms and functions of the relationship of theory to practice: the student teacher draws practical information first hand by practicipating in classes in the school as an observer; he practices relatively independent instructional activities; and finally he may begin practicing teaching with a firm scientific basis for an extended period of time, but still "on probation." The transitions from these various levels are fluid; the leap from "inquiring learning" to experimental action can now be described as a flowing transition. Orientation to the profession, preparation for the profession and introduction to the profession can no longer be divided into segments which are kept apart in content, time and organization.

All the various models for and experiments with "one-phase" teacher training, which are under development and study in the Federal Republic, have as a common point of departure the notion that the student teacher's encounter with his future place of work, the school, and the confrontation with the central problems of his future profession, should be made relatively early in the course of study, almost always in the first year. All these concepts are also in agreement with the idea of a coherent unit of teaching activity toward the end of the training for which the student himself takes full responsibility, the so-called "clinical phase." A number of further issues are still being discussed. For example, it is still unsettled as to what point in the training to include further forms of contact with the professional practice, what specific functions they should have and accordingly what scope. Also under consideration is whether the clinical phase should be carried out as a unit or whether it should be divided into two segments of several months each. It has been asked whether there could be better utilization of the almost five months during which there are no lectures at the universities in Germany for teacher training and to what extent the colleges and universities should and can assume full responsibility for the students' practical training.

Intensification of In-Service Training

The in-service training of teachers has also become a central issue in all discussions of the reform of teacher education in the Federal Republic of Germany. Doubtless it is extremely important for the concept of one-phase training and project studies as described here. For if the teacher has had close contact and active confrontation with the professional practice during his training, then he will more likely feel the need to expand his knowledge and to renew and refresh his qualifications. Unfortunately, as Dr. Mueller points out, in-service training has remained the stepchild of educational reform up to the present day. Although there are many responsible individuals and an almost confusing multiplicity of institutions and efforts dealing with in-service training, it has not been systematically organized within the existing system, let alone in relation to the current reforms. There are several reasons for the difficulties in making practical headway in the establishment and organization of in-service training. In the first place, there is no unified authority for in-service training. As is the case in practically all questions of educational policy, there is no federal agency which has authority for this area and therefore institutionalized in-service training is not developed uniformly in the individual Federal States. In some States, the Ministries of Education themselves *(Kultusministerien)* and their subordinate agencies organize both the programs of study and the individual courses. Other States have their own institutes for this purpose which have a more independent status. Moreover there are large teacher organizations, several major cities and institutions of the larger churches which have provisions for in-service training. Secondly, almost nowhere is in-service training obligatory. Voluntary motivation should not be thought of as essentially negative, but if one intends to continue to develop the school system comprehensively and to enable all teachers to fulfill their tasks today, then gross inadequacies become apparent: a large segment of the teaching body is too poorly informed and is insufficiently committed to new tasks and to educational reform. Moreover, if one intends to convert new planning, especially new curricula, into practice, and if the individual teacher should really be benefitted in the classroom, where he works, then "multipliers" need to be trained to disseminate innovations and innovative consciousness in their regional area. But the training of multipliers is hardly even under consideration at the moment. In individual cases there is good contact between the institutes of in-service training and institutions of higher learning, but on the whole the latter do not participate intensively enough in in-service training. Likewise, there is no systematic evaluation of the experiences of other countries. As a result of the voluntary nature of in-service training and the lack of any central authority, the effects of previous efforts have hardly been investigated either from the pedagogic or the economic aspect. We have only begun to make careful analyses of the unsatisfactory state of in-service training in order to plan for improvement.

Therefore it is only possible to report examples of isolated efforts that are being made in in-service training such as that of the Hessian Institute of In-Service Training for Teachers, where one of the authors is employed. This Institute functions in four different locations in Hessia, has fourteen full-time scientific workers and yearly employs no fewer than 1500 part-time course directors and lecturers. In 1971, about 490 courses lasting several days or a week were conducted for approximately 13,000 teachers or about 40 per cent of the teachers in Hessia. For several years Hessia has been preparing new curricula for the schools in which a great deal of stress has been laid on combining subjects that have been separate up to now into new, interdisciplinary courses. For example, history, political education and geography are being integrated into the new instructional field of social studies *(Gesellschaftslehre)*. Teachers will need to be motivated for and capable of working together in these new interdisciplinary projects, which will begin on a trial basis in late 1972. Furthermore, the entire school system in Hessia is being gradually reorganized into a new system of horizontal levels for which practicing teachers will have to be prepared. In the individual courses of the Hessian Institute for In-Service Teacher Training special stress is laid on inviting not only teachers with one particular kind of training and experience at one kind of traditional school, but a variety of types of teachers so that they can experience first hand the cooperation which will be necessary in the future among various groups of teachers, especially in the conception of in-service training.

Institutional Integration into a Comprehensive System of Higher Education *(Gesamthochschulsystem)*

It follows from the concept of integrated teacher education that the various training establishments and institutions of higher learning at which teachers have been trained in the past should now be combined and standardized in their structure. In the Federal Republic this task is being approached through the concept of *"Gesamthochschule"* (comprehensive institute of higher learning) which parallels the term *"Gesamtschule"* (comprehensive school). It is a question of merging the various and historically separate institutions of the university, the teacher's college, the advanced training center and the institute for in-service training, into a unified institutional system. The first prerequisite for bringing the institutions together is the standardization and integration of the contents and structure of education, as described above under the heading of integrated teacher education, for otherwise institutional integration would be effective only in the organizational realm. On the other hand it would be difficult to unify educational concepts if the educational institutions were not unified concomitantly.

The various educational institutions do complement each other because they have different research concentrations and perspectives on teaching to contribute to such a consolidation. While the universities have largely cultivated the scientific dimensions and aspects of specialization in teacher education, the teachers' colleges have up to now developed the particular didactic orientations of the various sciences. The teachers' colleges have also developed, independently of the universities, models for student and teacher contact with the schools which deserve to be included in the future integrated teacher education. In these models the tendency toward the desired relationship between theory and practice in training has been much further developed than in the advanced training centers, whose isolation from the places of scientific research and training has been the reason for their often rather modest theoretical development. It is also certain that a consolidation of institutions of teacher education into a comprehensive system would highlight the biases and deficiencies of the traditional separate forms of teacher training which would provide motivation for further innovations. On the other hand one must not overlook the fact that the concept of the comprehensive institution of higher learning will come up against a series of obstacles within the institutions themselves, just as does the concept of integrated teacher education itself. The traditional, separated courses of teacher training were based on different concepts of the role of the teacher, of scientific education and of the relationship of theory to practice, and it is just for this reason that the merging cannot proceed without resistance and conflicts. In addition, it is to be expected that *in the long run* the establishment of a comprehensive system of higher education will indeed facilitate more efficient employment of personnel and utilization of equipment and space. And the new concept and organization of education will also encourage a greater number of students to undertake preparation for the teaching professions resulting in a greater number of better teachers. On the other hand, such an innovation and extensive reorganization of the entire field of teacher training will, of course, require the immediate availability of additional funds without showing immediate and demonstrable results. This, in turn, will meet resistance in the decisive political bodies, which view educational reform and implementation of innovations chiefly in terms of how the fast-rising costs of educational institutions can be held down.

Problems of Transition Between the Old and the New Concepts of Teacher Education

The new concept cannot be established on a *tabula rasa*, but rather must be gradually introduced into the existing system without causing a serious reduction in productivity during the transition period. A description of the present state of teacher training in its second phase, in the advanced training centers, will exemplify the internal problems of the transition process. In the Federal Republic of Germany, two-phase training was, until recently, almost exclusively for the university-educated teachers in *Gymnasien* and in the professional schools *(Berufsschulen)*. Only in the last few years has the second phase been established in a few States for teachers in elementary, intermediate and technical secondary schools *(Realschulen)*, while in the same period there has been discussion concerning the problems of abolishing the second phase, as outlined above. The reason for this contradictory development is that the privileged status and the better salaries of teachers in *Gymnasien* and the professional schools derive in part from the fact that these teachers complete a second phase of practical training after their theoretical study. This issue will most likely be dealt with by a strategy involving the introduction of a second phase for all teachers and then its subsequent elimination.

In the advanced training centers, future teachers receive an introduction to their future field of work in training courses of only a few weeks after which they observe classes and give instruction in schools near the center under the supervision of practicing teachers, or "mentors," for about eight to twelve hours weekly. In the training schools a seminar is held each week in which problems arising in the practical training are discussed; in the advanced training center weekly seminars are held on the didactic theory of the various subjects being taught, on pedagogy and on educational sociology, and week-long seminars are held on special problems of performance and planning. This form of training is substantially directed and controlled by practicing teachers who function as mentors, individually counsel the student teachers in the training school, direct the school seminars and seminars on didactic theory in particular subjects in the advanced training centers, and even direct the entire advanced training centers.

The guiding principle behind this arrangement is that the future teachers should come into intensive contact with the school following their previously essentially theoretical training. We have already indicated the problem that the innovative component can be and in many cases is lost. Heavy demands are made on the prospective teacher by the daily instructional duties and the various seminars which tend to hinder, rather than encourage a critical examination of one's own role as teacher and to stifle the development of an interactive relationship between theory and practice. Teaching research and didactic theory are still not advanced enough in certain areas to permit work in the advanced study centers which is as effective as elsewhere. The determining problem is that the advanced training centers are *institutionally separate* from the institutions of higher learning, where the first phase of the training is organized and where the research in those areas vital to the work of the advanced training centers is generally further advanced because they can function in greater freedom.

In the entire Federal Republic, schools are controlled and inspected relatively closely by the school administration of the States. In general, these administrative bodies function as conservative braking mechanisms with respect to innovative educational reform; they are hence wary of any disturbances which could be brought about by one-phase training and the large number of students it would bring into the schools with it. Thus far, in no Federal State have any experiments with models involving one-phase teacher training been accepted. As long as this is the case, the deliberations under consideration cannot be empirically tested; the theory can be refined, the organization made more precise, but nothing else. But even if one-phase training were introduced, there would remain the question of the extent to which institutions of higher learning could actually and legally plan and organize the practical aspects of training in its various forms and functions. This would require that institutions of higher learning extend their influence into the schools; of course, teachers, pupils and parents would in turn be actively involved as well. It is impossible to predict whether the States' school administrations would give up their powerful rights to control and direct the practical phases of training in the advanced training centers. It must still be determined whether and how the school administration should be granted the right of equal determination in the formulation of goals for teacher training and in the organization and evaluation of programs of practical training within the one-phase system. A sufficient number of schools, classes and teachers must be found and prepared for the tasks which will face them in this form of training, and these school and teachers must be granted sufficient experimental freedom by school administrations and parents, if the model is to be given a chance.

Social Conditions and the Future of the Reform of Teacher Training

By the end of the sixties, years of discussion in the Federal Republic of Germany had led to the general consensus that the West German educational system needed reform in numerous places. About 1970 the extent to which this opinion had gained support became obvious when there appeared almost simultaneously numerous plans for general reform in which even representatives of school administrations had a part. Today, however, this consensus has again been cast into doubt with the waning of the reform euphoria in educational politics. The public scene in educational politics is dominated by a dogged battle between two deeply-entrenched factions: the one, reform-oriented; the other, extensively conservative, and only conceding possible changes of a technical sort. The main reason for this is most likely the fact that while many interested parties came forward during the late sixties within the general reform movement in educational politics, demands were awakened among some for greater chances in life and freer personal development which simply did not fit into the framework which the interests of the production system desired for workers, whose training made them not only flexible, but interchangeable as well. Advocates of educational reform and of emancipatory teacher education in the Federal Republic today very frequently also include a conception of a social system in which the entire social development will be defined anew, and most importantly, by a much larger number of citizens. In light of this, it is hardly surprising that not only the socially powerful factions from industry but also the governmental educational administrative bodies have distanced themselves from the consensus reached by almost all parties around 1969. Today educational reform is seen by these factions as a problem of financial resources, and these resources, so goes the argument, are not available in the necessary amounts. In this way doubt is also cast upon those reforms which would not require great financial means but which call for hard political decisions and a decisive commitment to basic democratic values in society. We cannot predict at this time whether integrated teacher education as a program and a concept will become the new model for teacher training in the Federal Republic.

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REFORM IN TEACHER EDUCATION THROUGH DEVELOPING PERFORMANCE – (COMPETENCY) BASED TEACHER EDUCATION PROGRAMS*

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Most teacher education programs today operate without any prior comprehensive conceptualization from useful research findings and societal concerns. Very few are built on assumptions about the role of the learner, the changing role of the teacher in a changing society, and the kinds of skills and attitudes that a teacher needs in order to continue to grow as a teacher and as a person. The conceptualization of most programs today is in terms of the particular courses needed to meet someone's standards or, in the United States, teacher certification requirements. Most programs are designed without a research or theoretical base. Major breakthroughs have been made in teacher education research concerning the analysis of teaching behavior and the conception of such behavior as a complex of skills that can be identified and practiced systematically under specifiable conditions. A number of innovations, such as micro-teaching, interaction analysis, simulation, and team teaching, have been introduced into teacher preparation programs but they have been used in an appended, piecemeal fashion. While such innovations offer program potential, the net result is that despite their addition, the total program does not change significantly. Innovation in teacher education should be viewed as an interrelated portion of a complete program. Innovative program components need consideration in terms of the total system and how the goals of that system are to be achieved.

There is really no longer any way to hide from the forces which are pushing and pulling the teacher education profession toward drastic change. Using the United States as an example, I can report that there is a serious breakdown in the desire and ability of Americans to support education adequately at all levels. This attitude is causing a definite reconsideration of what shall be taught and how it will be offered to learners as well as the extent to which a public is willing to fund education professionals who fail to address themselves adequately to the educational problems of the day. Accountability in education has become a national policy. Educators are being forced to accept responsibility for their performance and the performance of their products. Various strategies are being developed to provide a frustrated public with evidence that our contract with school patrons involves more than simply showing up for work on time and putting in a minimum number of hours. Performance contracting is an example of one of these strategies. It is evident that the public education system of the United States has certain weaknesses and is unable to do what it has been commissioned to do for large segments of our population. Witness the national concern over persons from culturally different backgrounds who find it difficult to learn in present schools with present teachers. We have too many children with reading difficulties; there is a lack of vocational preparation for many youth; there are vain attempts to cope with "in-school dropouts." School officials are becoming increasingly concerned with the inability of beginning teachers to meet fully the expectations of the school district and find a pressing need to provide more "on-the-job training" for new teachers. Pre-service and in-service teacher education students charge that teacher education programs lack "relevance" to the current social and educational scene. Added to all of this in the United States is the growing demand by the teaching profession for a greater voice in matters of teacher program planning and certification. The general desire is clear for increasing self-regulation within the teaching profession. Finally, we are faced with an over-supply of individuals holding qualified teaching certificates, but we have a distinct under-supply of real teaching ability. The

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teacher shortage in the United States has been met physically but not in terms of quality.

The point being made is that the demands of society and current educational change efforts have triggered confusion, uncertainty, self-analysis, as well as excitement and hopefulness in terms of the options available to teacher educators as they seek new directions. As we react to the sweeping social and educational changes confronting us, two broad strategies for the design and operation of teacher education programs are available and in competition. H. Del Schalock of the Teaching Research Division of the Oregon State System of Higher Education, has identified them as the *Experience-Based* strategy and the *Performance-Based* strategy.

The first strategy is descriptive of most teacher education programs in operation today. The experience-based teacher education program by and large involves a specified number of courses and course hours in specific areas of study plus a student teaching requirement. The standards of teacher education accrediting adopted by the National Council for the Accreditation of Teacher Education in 1970 express this concept quite well by recommending (1) course work in the area of general studies, (2) content of the teaching specialty, (3) humanistic and behavioral studies (4) teaching and learning theory with laboratory and clinical experience, and (5) a "practicum" experience. Such specifications are simply classes of experience in which prospective teachers are to engage. They do not specify *what* is to be taken from such experience nor do they indicate what prospective teachers *need to know* or *to be able to accomplish* in order to become qualified to teach. Programs designed on this basis are not performance-based unless one considers that maintaining specific grade-point averages in the courses taken is evidence of teacher competency or success. This approach to teacher education has consistently been found wanting in the past and continues to do little toward meeting present and future educational challenges.

The answer to real change in teacher education is the strategy involved in the development of performance-based programs where the outcomes expected to be derived from such programs are clearly specified. Operationally, this means that the knowledge, skills, attitudes, sensitivities, and competencies, that prospective teachers are expected to have upon completion of a teacher education program are specified and the indicators which are acceptable as evidence for the realization of these outcomes are made known. We classify this type of teacher training as performance or competency-based teacher education. Such reference simply means that the competencies to be acquired by the student and the criteria to be applied in assessing the competency of the student are made explicit, and the student is held accountable for meeting these criteria. The teacher competencies to be specified are those involved in the particular teacher skills, understandings, attitudes and behaviors that facilitate the intellectual, social, emotional and physical growth of children. Three types of criteria are used in determining the competencies of the teacher: knowledge criteria, performance criteria and product criteria. Knowledge criteria are used to gauge his cognitive understandings. Performance criteria are employed to assess his teaching behaviors. Product criteria are used to assess his ability to teach including an examination of the achievement of pupils he has taught.

The trend today in American teacher education is obviously toward a stronger emphasis on performance and product. An increasing number of people in the teaching profession are becoming unwilling to accept the assumption that simply because someone "knows" something he can necessarily apply his knowledge. We are becoming increasingly uncomfortable with the magnitude of inference between "knowing" and "doing" and the time has come to ask prospective teachers for the evidence of what is expected of them as well as that which is specified for them. No longer can teacher education programs give greatest weight to the teacher's knowledge. Knowing and the ability to apply what is known are two very different matters.

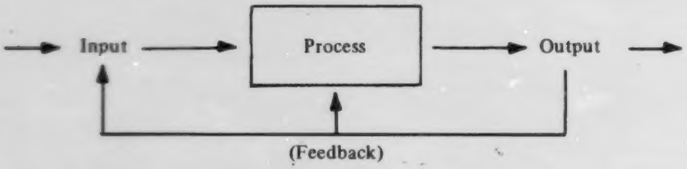
The major and most far reaching effort in the United States to accommodate the foregoing points of view has been the *Model Elementary Teacher Education Programs* sponsored by the United States Office of Education. Nine of these developmental research programs were funded in a Phase I design effort. An additional program was added during the Phase II feasibility studies which looked into the matter of program design time and cost factors. These ten model teacher education programs, which run to over two million words of research reports, are major contributions to teacher education and educators everywhere. These model designs and the subsequent, cooperative work of the model directors and their colleagues, from 1967 to the present, have formed the base and real substance of what is known as competency-based teacher education.

Systems Analysis Approach

The fundamental process for competency-based teacher education curriculum development research is the systems analysis approach. Systems analysis is a general term for the process of applying scientific thinking to large scale problems. The use of this concept in teacher education must be thought of as indicating a concentration on *process.* We have thought of teacher education as a system because (1) the role of the teacher must be designed (and his education developed) in the context of various related educational roles (such as teacher aides, educational technologists, various supervisory personnel, etc.); (2) the role of the teacher must be considered in relationship to all the elements of the learning environment (such as books, theories of teaching, equipment, etc.); (3) the distinction between pre-service and in-service training is eliminated and teaching is more and more viewed as a continuing, developmental process; and (4) the education of teachers has become goal-oriented based on the development of competencies required of the teacher in order to facilitate children's learning.

With this rationale in mind, a teacher education system has as its *purpose* the development of teachers who possess certain knowledge, skills, and attitudes which will facilitate the learning process for children. Its *processes* are the readings, discussions and experiences that a teacher undergoes as he attempts to achieve the necessary knowledge, skills, and attitudes. Its *components* are the managerial and instructional units (courses, learning modules, scheduling unit) necessary to organize and monitor the processes designed to achieve the program's purposes. And the *products* of the system are the teachers who graduate from the teacher education program so conceived. The measure of the system's success is whether or not such teachers possess the knowledge, skills, and attitudes, which the program had as its goals. Evaluation is necessary to ascertain the degree to which this occurs. The information obtained from such evaluation is then fed back into the system in order to make any necessary alterations to the purposes, processes, or components of the entire program. As corrections are made, the whole cycle is repeated again and the process is obviously ongoing and regenerative.

A simple way of looking at systems is to view the entire procedure as one of input, process or operation, output, and feedback. The relationship among these components can be shown in a simple diagram which indicates that feedback from output goes to both the process and input components.



The purpose of the system is realized through processes in which interacting components of the system engage in order to produce a pre-determined output. Purpose determines the process required and the process will imply the kinds of components that will make up the system. Thus, the systems approach forces a *total* consideration of teacher education–its objectives, its means, its sub-systems and their relationship to each other.

The model builders, using a systems approach, began with a conceptualization of the total educational program including its needs and broad objectives, considered the potential components of such a program, stated the specific objectives for each component and then designed the instructional procedures, called modules, to achieve the objectives. The analytical process of the systems approach demanded a consideration of teachers from a product-oriented perspective accompanied by reference to educational theory and research on teacher effectiveness and the learning process. Systems theory called for precise development of goals and objectives, because the design of all processes and components in the system was dependent upon objectives which clearly stated the criteria by which the system's effectiveness was to be judged. Putting it simply, you must know what you are trying to do or there is no way of finding out if you have done it. The systems approach forced the designers to look at educational innovations and new practices in respect to their relationship to specific program goals and objectives. Educational innovations were not added to the program design indiscriminately. The systems approach required that the components of the program be derived directly from the objectives or else the program's achievement was not to be facilitated.

The basic concepts and thinking behind the systems approach are not new nor mystical. Rather, the approach is a logical and analytical process that rests on common sense. It does require some new vocabulary and a new way of approaching the design of a teacher education program, but unless we really understand the system called "teacher education" and its relationship to the whole of education, we cannot justify our current practices nor recommend promising changes.

Personalization and Individualization

Competency-based teacher education programs are sometimes criticized as being non-humanistic. For such programs to be both relevant and humanistic they must be personalized and the concept of "personalization" requires both face-to-face personal contacts and a variety of strategies which individualize the instruction-learning process. The term personalization is intended to convey a meaning beyond that implied by the words individualization of instruction. Individualization refers generally to the provision of opportunities for students to engage in learning activities independent from other learners. It can be accomplished in many ways but although instruction can be individualized this does not assure a humanistic learning environment. Personalization of instruction, on the other hand, attempts to avoid the de-humanization of instruction.

Personalization requires that students have a direct impact on the design, development and operational implementation of the program in which they are participating. It calls for learners to help determine the nature of their learning experience. This ultimately means that each student's program will vary to some extent on the basis of his interest, specialization, background of knowledge, skills, and his personal learning style. There has to be a continuing relationship between the college faculty and the student throughout the student's stay in the program. The student is expected to interact continuously with his faculty sponsors so that the competencies to be developed by the student, the context in which such competencies will be demonstrated, and the criteria by which they will be judged, will be defined and negotiated.

The fundamental idea behind personalization is that students will know exactly what they want to do and what they can do. Then they are held accountable for demonstrating the competencies they have defined and agreed upon achieving. Assessment procedures are considerably modified from what they have been in most teacher education programs. Instead of assessment being "norm referenced," it becomes "criterion referenced" in terms of the three previously mentioned classes of criteria–knowledge, skills and products. Seeking the products of a teacher's behavior to assess competency will mean that competence is always situation specific and cannot be thought of as abstract or generic. Situation specific competence must always be demonstrated in real life settings. This results in the development of teachers with markedly different "styles" of teaching who can produce predictable outcomes. If we can engage prospective teachers in an education that is data-dependent and personalized where they themselves become independent, self-directing learners, we think that they will be able to create a similar learning environment for the children they teach.

Competency-Based Criteria

The basic point of view about the competency-based approach assumes the use of the prior stated kinds of assessment criteria–knowledge criteria, performance criteria, and product criteria. Traditionally, teacher preparation programs have been concerned primarily with knowledge criteria for the assessment of objectives. Almost without exception such competencies are stated in terms of courses required and evidence that time has been served, including some form of student teaching. This lack of clearly defined outcomes hampers teacher education processes. Even when sufficient time for student teaching is provided, the lack of specific performance expectancies makes it impossible to measure the effects of training on the performance or the student's readiness to enter the teaching profession. Emphasis is now shifting to assessment procedures which emphasize performance criteria and such criteria should be as rigorous, systematically derived, and explicitly stated as the criteria for assessing knowledge. The ability to attain specified objectives with learners (or products) represents another kind of competence which will be required of a teacher candidate. Such assessments of *knowledge* (what a prospective teacher knows), *performance* (what a prospective teacher can do), and *products* (what a prospective teacher can achieve in learners), can be made and described systematically. Only when a prospective teacher has the appropriate knowledge, can perform in a stipulated manner and can produce anticipated results with learners, will he meet competency-based requirements.

Regardless of the basis for assessing competence, two general conditions must be met if competency-based teacher preparation programs are to be a reality. First, there must be reasonably precise statements of the specific competencies to be achieved. Second, there must also be reliable procedures for assessing competence in terms of the appropriate criteria developed. These two conditions require some procedural conditions which must be observed. Decisions on what behavior and what products are to serve as a criteria base must be made in collaboration with appropriate agencies or persons who act together to specify appropriate knowledge, behaviors, or product outcomes. Thus, the teacher education institution is no longer the major determinant of program focus or requirements. All aspects of education must become a part of the act in determining a basis for competence assessment. Another important procedural condition is the use of behavorial objectives as a form for stating outcome expectancies. The need for behavioral objectives grows with the conviction that desired educational outcomes can be specified and measured with reasonable precision. These institutional objectives will specify the behaviors to be acquired by the student and will include understandings, attitudes, and skills. Expressive objectives may also be indicated which will specify events to be experienced by the student without any prescription or prediction of possible outcomes.

In a competency-based teacher education program achievement is held constant and time varies. In present teacher education programs time is held constant while achievement varies. Competency-based programs put their greatest emphasis with students on exit, not entrance, requirements. Traditional programs put the greatest emphasis on entrance requirements. It appears much more germane to examine an individual's abilities after completion of a program rather than before he has entered it.

Instructional Modules

At the heart of a competency-based teacher education program is the instructional module. An instructional module may be defined as a set of learning activities intended to facilitate the student's achievement of a specific objective or set of objectives. In its simplest terms the module consists of the following elements: (1) A specific objective or set of objectives in behavioral terms; (2) A pre-test designed to assess the student's level of achievement relative to the objective or objectives prior to the experience; (3) A series of instructional activities designed to help the student meet the objective or objectives; (4) A post-test designed to assess the student's level of mastery relative to the objective or objectives.

Certain facts about the various elements of a module are worthy of emphasis. The objective or objectives are made public and are based on competencies which are reality-based. The pre-test provides the student with an opportunity to demonstrate competencies he already possesses with the option to by-pass the instructional activities relative to those competencies that he can demonstrate. Both the pre-test and post-test are reality-oriented; therefore, performance and product criteria are generally utilized to assess student progress. And most importantly, module use increases possibilities for self-pacing, individualization, personalization, independent study and other means of instruction, all of which are obvious advantages.

Other Factors

Competency-based teacher education calls for continuity or the joining together of pre-service and in-service teacher training. We assume that a teacher is never fully educated and his intellectual and practical development is a continuous matter which must be nourished regularly. Consequently, the concept of a fixed three or four year program for teacher education is discarded, and concentration is provided on a more balanced and integrated approach to continuous teacher growth. The competency-based curriculum is deliberately designed for growth with respect to given knowledge, teaching performances and student outcomes because possible hierarchies of learning from the simple to the complex in the various content and skill areas are made more explicit. Competency-based design strategy calls for timely delivery of instruction at the time the teacher needs it, not just during vacations, weekends, after hour sessions, or in informal instructional classrooms. The attempt is made to make education as explicit and as public as possible with alternative objectives and instructional routes from which the next steps of growth can be selected. Finally, this curriculum approach includes the technology which enables the various partners in the teacher education enterprise to maintain anticipatory design activities which permits the program to continue delivering instruction based on changing needs. Under these conditions continuity in teacher education is a necessity, not something to be possibly considered.

Multi-instructional organizational patterns and inter-disciplinary study are prominent in competency-based teacher education. Multi-institutional organizational patterns refers to the fact that teacher education must be the business of not just colleges but also public schools, involved educational and governmental agencies, educational industries, educational professional organizations, teacher education students, and the community where teacher education activity takes place. Such a conception greatly extends the cooperative base for teacher education planning and operations. The objective is to maximize the resources available to teacher education programs and to involve more closely, directly and indirectly, those concerned in the decision making processes related to teacher education. Various kinds of partnership relationships can be developed with the use of consortia becoming a more predominant pattern of organization in providing teacher education programs. Teacher Education is coming of age as a behavioral science. The end of this century will see teacher education programs developed and conducted on the basis of empirical knowledge about learning and the conditions best suited to effect it. This will necessitate an inter-disciplinary approach in teacher education because the behavioral sciences are inter-disciplinary by nature. Teaching tasks call upon such a range of sensitivities, information, and skills, that only an inter-disciplinary approach to teacher training is conceivable. The team approach to studying human behavior must be replaced with a system where academicians and professionals can work together as true colleagues. It is interesting to note that on many college campuses today the growing edge in any research or developmental process is not in the traditional departments, but rather in centers, institutes, bureaus, or laboratories where scholars of various persuasions and disciplines combine their talents to solve a set of problems or a common problem. Cross-fertilization seems the key to the matter and the better way.

Education today is suffering because of a lack of systematic evaluation in teacher education. It is one thing to plan a course of training for teachers but is quite another to determine how future teachers will behave once they take full responsibility for their own classrooms. Competency-based teacher education focuses unusual attention on evaluation. If such programs are to be effective in realizing their objectives, it is essential that modern systems technology be employed in their management and evaluation. The basic concept underlying this idea is the validity of a systematic procedure in dealing with planning operations. We must begin with a clear understanding of what is to result from our efforts, make detailed plans to achieve these objectives, and then put our plans into effect while constantly evaluating and revising as better means are found to achieve the objectives. A program so arranged in behavorial terms can be evaluated at any given point and time, and provisions for prompt and objective feedback will enable it to become self-correcting. Regretfully, present teacher education programs have not required the collection, sorting and frequent retrieval of large amounts of data for evaluative purposes. Increased attention to evaluation using systems management procedures calls for in-service staff training as well as the collection and use of an increasing number of specialists such as program systems analysts, computer programmers, media specialists, systems technicians, counselors and accountants. The all but neglected areas of program evaluation and management in teacher education require far greater attention than has ever been the case in the past.

The foregoing information has provided a general indication of what is involved in competency-based teacher education. Undoubtedly there are many questions, most prominent of which would be, "What does this mean for me if such a program were to be developed at my institution?" To try to clarify the concepts just provided and to answer the question just posed, this paper will be concluded by, first, unfolding the process that The University of Toledo Model designers utilized in developing their competency-based teacher education program and, second, indicating the potential changes in faculty roles which will accrue from such a program.

Toledo Model Program

Within their teacher education universe, the Toledo planners attempted to deal appropriately with all of the sub-systems of the larger system. They called these sub-systems target populations. The target populations were the pre-service students preparing to teach in preschools, kindergartens and elementary schools; in-service teachers; administrative personnel in public schools; college and university personnel associated with teacher education programs; and supportive personnel such as teacher aides and various other types of paraprofessionals. We assumed that if we were to have any success in changing teacher education the new program must deal with all of these target populations and all would be involved in a training or retraining process.

Our basic process for the project required an analysis of the general goals from the perspective of the teaching-learning process, educational technology, societal factors, research, and instructional organization. These contexts, in our opinion, represented the more important sources of change in teacher education today. Each context was broken down into major subject areas which were further divided into topics. Behavorial objectives were then prepared for each of the six target populations utilizing each topic within each of the five contexts. These behavorial objectives were next armed with the details necessary for their implementation by specifying the procedures, materials, and evaluation processes to be used to achieve the objective or objectives. We called the results of this effort, *Educational Specifications.* A collection of these specifications or an elaboration of any one provides an instructional module. This effort finally produced 876 usable specifications which incorporated over 2,000 behavorial objectives. The educational specifications and/or instructional modules were then organized into potential teacher education programs for each target population and also for limited, special purpose programs which are possible with our Model.

The above description is simplified but it incorporates all of the principles involved in developing a competency-based teacher education program including the designing of the evaluation component. Because we sincerely desired to address ourselves to change in teacher education, we stated that all groups of educational personnel who are in any way actively involved in the education, induction and support of new teachers must be subject to training or retraining. Further, we believed that any new challenging teacher education model program should also result in corresponding changes and innovations in the elementary school setting where the model is to be applied and its products placed. Thus, we abandoned the concept of teacher preparation for the elementary, self-contained classroom and graded school and incorporated the idea of the multiunit school and team-teaching concept developed by the Wisconsin Research and Development Center for Cognitive Learning, an elementary school model which is now a national thrust and policy. Our model efforts were not limited to traditional group activities but involved individually guided education and a program of individualization and personalization. We felt that the elementary school teacher should not be prepared exclusively as a generalist but have specialization in one of the four basic fields of teaching competence: language arts (reading), social studies, mathematics and science. We thought that a very decided instructional effort must be made to train teachers in terms of understanding and using the inventions of modern educational technology. We thought that teacher education programs could not rely only on child development points of view but should also incorporate some concern for the outcome, behavior and overt operational procedures by which specific behaviors can be elicited. We strongly believed and built into our program a keen awareness for cultural and social factors. We realized that research in teacher education could not be blithely ignored for the time has come for teachers to become classroom researchers and to be far more adept than they now are in assessing and evaluating teacher behavior and style. We advocated a teacher education program that would be a combination approach of work and study, practicum and experience, and content and training. College course work was always accompanied by field experience and public school classrooms became the physical facility for teacher education courses. Continuous cooperative and coordinated teacher education efforts with all segments of the community was emphasized. Finally, we assumed that a teacher education program was continuing and that the four year structure was simply a starting point not a conclusion. Our attitude about our Model is that it constitutes an exemplary program but not an ideal. It provides a broad general direction not a highly specific, narrow treatment. We think the Model can stand as it is. But as we implement it, we are constantly making changes as we try one strategy or another. This is consistent with our overall philosophy that our original specifications were not "forever," the last word in teacher training. We think we have created a Model which is self-renewing and constantly "becoming" a better program.

Changes in Faculty Roles

Future faculty members will become increasingly more specialized and such specialization will take forms different from those of the present. Present specialities such as curriculum specialist, educational psychologist, et cetera, are rather broadly defined and such persons are involved in many activities peripheral to this speciality. The philosophy of "everybody should be doing everything" is no longer tenable.

A type of specialization which we foresee emanating from competency-based teacher education developments will be the creation of the learning specialist. This person will be involved with a behavioral approach to teacher education and will be proficient in such areas as the development of behavioral objectives, the organizing of educational modules, and the evaluation of educational outcomes. He will be a specialist in the learning-teaching process, and he will not be separated, in theory or in practice, from the real world of teaching. Another type of specialist will be the research and evaluation specialist. Competency-based teacher education programs will need individuals trained for roles in developmental research and evaluation. Such research will relate to the improvement of training programs and will be conducted within the context of an operating educational system. With emphasis being placed on evaluation of an empirical nature which is ongoing and supportive of decision making, a specialist in this type of activity will be certainly needed in the teacher education of the future.

Educational technology specialists will be necessary who will be able to instruct students in the methods of using educational technology and media and who can also work with teachers and other faculty to improve the effective implementation of their roles through the use of media. Instructional specialists will become necessary as teacher education programs shift decidedly from general information transmission to instructional guidance, demonstration and modeling. Individualized instruction and personalized attention in teacher education is difficult to visualize with a professor lecturing to a class of several hundred students. We will need specially trained faculty members who are adept builders and organizers of learning activities and who with their students can become learners together. Such specialists will be required to use the products of modern technology in their professional activities. They must know how to individualize programs for students which involves continuous monitoring, assessment, and feedback. Such individuals will need to be more knowledgeable about elementary research procedures and principles and also be able to demonstrate their ability to apply such principles. Such professors, in cooperation with other personnel, will become increasingly responsible for program decisions and continued program development. With this responsibility comes a new dimension of accountability in the lives of professors. All of this will not negate present training and expertise in specific subject areas but much more must be added to the repertoire of the current professor than is presently the case.

We will also find that faculty members will be required to spend a majority of their time in the field where instruction with children takes place. This further means that the base of personnel considered teacher educators will be broadened. The university professor will be required to share his position as teacher educator with personnel from the public schools and other educational agencies. They will all become functioning members of a new educational team on a new basis of parity. Presently, most faculty members can pursue their professional activities in relative isolation. When the individual is operationally a member of a professional team, the demand and even the motivation for excellence is much more acute. Working directly in a team context with one's colleague will increasingly become a characteristic of the faculty role. Such teams will be organized for the task to be done and not based on some status formula. The organization of teacher education faculties will be more along process lines than traditional subject or professional areas. With this will come the demise of some old loyalties and the emergence of new identifications for the teacher education professor.

Will all of this result in the teacher educator becoming the alien in his university setting? Will faculty roles in teacher education be incompatible with faculty roles in other portions of the university so that teacher educators will be even more isolated than is presently the case? On the contrary, we feel that such new roles suggested for teachers of teachers are more compatible with current university directions and developments in higher education. Using the concept of shared responsibility for teaching and learning should create more self-motivation on the part of learners and teachers and a different kind of unit in terms of place and purpose.

The changing faculty role implies a major task of faculty re-education, with all its content, procedure and logistical detail. Such a faculty member should become the change agent of future teacher education process and progress. The faculty make the real difference in all design and development efforts because such efforts require faculty understanding, direction and support. Changes in teacher education will come only to the extent that faculty concepts of their own roles change in ways which provide both the direction and the force required to build the new teacher education.

Conclusion

The entire effort by the model directors in competency-based teacher education has been to proclaim, delineate and prescribe change in teacher education. Society has changed the goals of education but most educational institutions, especially colleges and schools of education, appear uninformed of the new goals. The needs and natures of learners have changed, but our schools, where the graduates of teacher education institutions are placed, are still organized and operated for pupils of an earlier, simple time. Curriculums have changed but have not kept pace with social, economic, cultural and technological changes. That educators have not kept up with societal change is not unusual or unexpected. It is not a simple matter to keep educational goals and practices consistent with society's needs, but saying this does not lessen the need to reduce a major aspect of societal strain and to achieve the development of a more appropriate fit between society and education. This is a crucial objective of a modern society. This is the task to which the model builders have addressed themselves in teacher education. We are fundamentally concerned with teacher education because it is here that educational forces seem most resistant to change, but it is also the place where the greatest educational breakthroughs can be realized and exploited.

The evolving, changing, regenerative nature of teacher education has been suggested. Teacher education programs of the future must have the built-in capacity to reform, renew and change themselves. The method of program development called "competency-based teacher education" can make possible the consideration of teacher education as evolving, changing, and regenerating. In all of the model efforts, our concern for educational change has been our central guiding principle. We want to make it clear that change is contemplated for both the teacher education process and its products. If the process can be transformed, we expect to realize very different products. If the behavioral objectives established by and for our products are achieved, we expect teacher education operations of a vastly different nature. We hope you join us in the final, unequivocal conviction that the education of teachers as it now exists must be fundamentally changed.

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Getting It All Together: Performance Based, Educational Renewal And Teacher Centers

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Needed change in teacher education has proven to be one of the most elusive of all educational endeavors in the history of the United States of America. The Texas effort is plainly and purposefully classified as a revolutionary effort; or an effort from within the Texas educational system which seeks to change the structure of the system in ways which will allow and nourish needed changes in teacher education. The three specific changes which the Texas effort seeks to effect are national in scope and are included among chief innovations in teacher education now being considered in the United States. They may be stated here as new directions in teacher education:

1. All teacher education, both pre-service and inservice, should be *performance-based.*
2. The setting for all teacher education should be the *teacher center;* in our country this term means an educational cooperative including the community, college or university, and elementary or secondary school.
3. Excellent teacher education must take place as an integral part of the act of *education renewal.* The act of education renewal implies continuous, cyclical, systemic action including needs assessment, goal and priority setting, strategy development, trial, feedback and replication. The education renewal system provides both incentive for intelligent growth and accountability.

Although these three innovations in teacher education may be expressed separately, and even performed on an experimental basis separately, they can only become actual changes in a total educational system together, for they are interdependent. Each of the three innovations, performance-based teacher education, the teacher center, and educational renewal, may be found in several distinct places in the United States, but among the few instances of a large scale effort to "get it all together" is the Texas Teacher Center Project which is piloting programs built on the three innovations.

It is important to remember that in the United States the responsibility for public education is placed in the 50 states rather than at the federal or national level. Since the Texas Teacher Center Project is a revolutionary effort, coordination and responsibility for the total effort were located in the Texas Education Agency, the state administrative unit for public education in Texas. The Texas Teacher Center Project originated in 1970 and has just completed its second year under the auspices and funding of the National Center for Educational Systems (NCES) and the National Center for Educational Communication (NCEC), both divisions of the United States Office of Education. In the United States, the national government seeks to challenge the states continuously with new and improved ideas in education; and, through funding opportunities, encourages the trial of these new and improved ideas. It remains the responsibility of the state to turn the innovation into practice and maintain it as long as it is needed.

Believing that change does not just happen in a vacuum but must be nurtured in an environment designed for it, the planners of the Texas Teacher Center Project were alert to all opportunities beyond those directly connected with the Project to influence thought in the state along the lines of the three innovations in teacher education mentioned above. One of the significant efforts concurrently developed with the Texas Teacher Center Project was the Texas Teacher Certification Study, a state sponsored project totally separate from the pilot Texas Teacher Center Project. As a result of this study, in June, 1972, the Texas State Board of Education adopted new directions in teacher education which incorporate the three innovations. In the meantime, legislation was enacted in Texas, referred to as Senate Bill 8, which re-defined teacher education as being the joint responsibility of the college-university, elementary-secondary education, and the state. This legislation also funded the part of teacher education carried on in the elementary and secondary school. Thus, as the three innovations in teacher education were being introduced into Texas, change was effected in both legislative and regulatory action to nourish the innovations. Again the effort to "get it all together" was in evidence, providing legal and regulatory action and changing the inner structure of the system to accommodate the innovations concurrently with the instruction and piloting of the innovations.

Of the three innovations, the concept of performance-based teacher education is fully described elsewhere in this volume by my colleague, George Dickson. I will call to your attention again that in Texas each of the teacher centers is committed to develop a performance-based teacher education program, and the new regulatory action by the State Board of Education last month guaranteed that all new teacher centers will move in this direction.

What is a teacher center in the United States? The teacher center concept in Great Britain is quite different from the one emerging in the United States. In the United States, the idea is so new that there is no single prototype which could be described as a United States teacher center model. The model developed in West Virginia and also included in this report is one American example. The Texas model, with which I am familiar, is another, and other models are being developed in other states. The Texas Teacher Center is not a place; it is instead an administrative structure, an educational cooperative. This cooperative consists typically of three operational partners and one or more basic partners. The operational partners are the Education Service Center (a State agency), one or more colleges or universities, and one or more public elementary-secondary school districts. One of these partners serves as the fiscal agent to receive and expend funds. The staff of the teacher center is drawn from the faculties of the three operational partners. The basic partners in the cooperative typically are the community and professional organizations of teachers. Some teacher centers have enlisted business and industry as partners. The policy-making board of control for the teacher center is made up from representatives of its partners. The only powers the teacher center has are the powers given it by its members. It is financed by partnership funds, state funds, and federal funds. In Texas there are now 21 teacher centers and more than 90% of all the teachers produced in the state are educated in these 21 teacher centers.

The program of the Texas Teacher Center is developed around agreed upon objectives including (a) the conceptualization and field testing of performance-based teacher education, (b) educational needs revealed by a formalized needs assessment program, and (c) innovations in education. One of the ingredients of a Texas Teacher Center is the Learning Laboratory. The Learning Laboratory is a place, somewhat similar to the British model of the teacher center, where teachers and all school personnel study and plan new and improved approaches in education. Collections of new teaching materials, work rooms equipped for construction of materials, media of all kinds, demonstration teaching rooms, observation facilities, seminar rooms, and a central information services facility, characterize the Learning Laboratory in the Texas Teacher Center. The Learning Laboratory is used by all personnel in the Teacher Center: elementary-secondary school people, college or university people, and persons from the Education Service Center.

The third innovation being piloted in the Texas Teacher Center Project is called education renewal. This innovation is closely tied to the teacher center: in fact, it is the substance of the teacher center program and is implemented chiefly through the Learning Laboratory. The purpose of education renewal is to give continuous new life to the educational process, both teaching and learning. The education renewal concept begins with an on-going, continuous needs assessment program which pin-points needs of children and youth in the elementary-secondary schools, the needs of teachers as they deal with the needs of children and youth, and the needs of parents and communities as they continue to try to improve the educational system. After objectives and priorities are set, based on needs, strategies are developed to meet the needs. Piloting of strategies follows, continuous feedback is utilized in the system, decisions for change, if necessary, are made, and the cyclical education renewal process is at work.

At the point of strategy development in the renewal process, an extensive delivery system with information services was activated with local, state, and national linkage. This system channels into the teacher center through the Learning Laboratory a continuous flow of new and improved approaches in education with related information from the total national output. We hope soon to extend our coverage to include new and improved approaches at the international level. These new approaches, including materials, teacher education packages, and teacher guides, are under constant study by teachers and other school personnel as they continue to look for more effective ways to meet the revealed educational needs of children and youth. Since the education renewal concept does not stop with staff development but includes actual improved learning situations for children and youth in elementary-secondary schools in the teacher center, this innovation serves not only as an agent for professional growth but also as an accountability system which, in turn, is a basic characteristic of performance-based teacher education. The information services facility is in the model development stage. The chief information source involved in the model is the Education Resources Information Center (ERIC), a division of the USOE National Center for Educational Communication. The Texas Information Services model is tied electronically into the ERIC system and will provide at the teacher center level rapid search and retrieval of the information stored nationally.

At the piloting point in the education renewal process, actual elementary-secondary pyramidal school sites including a critical mass of students at both elementary and secondary levels are named in each teacher center. These sites serve as piloting stations for new and improved education products. After the innovation has been proven at the piloting state, these pyramidal sites become clinics for dissemination and replication.

In summary, what has been briefly outlined here is a *revolutionary* effort which has attacked the system from within through synchronized action involving new legislation, new regulatory action, the establishment of a local, state, and national delivery system with continuous information services, and the formation of an educational cooperative, the teacher center. We hope we have been able to open the door in Texas to all education innovations needed, such as performance-based teacher education, in our on-going efforts to improve our total educational system.

TEACHER TRAINING AND RENEWAL OF SECONDARY EDUCATION IN BELGIUM

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Teachers in Belgium, and doubtless everywhere else, feel that they are no longer the sole source of information for their pupils and they are *learning*–a difficult task!–to help their pupils to organize the new knowledge pressed upon them by modern information media and to turn to good account all the resources available in their environment which, in these days, is rich in stimuli no matter how humble it may be. Children are better informed and the teacher *too* must be better informed and familiar with new fields of knowledge. This is why Belgium has laid great emphasis in the last few years on the quality of the training provided for prospective teachers and on appropriate measures to ensure in-service training for large groups of practicing teachers through seminars, teacher-training days and courses, correspondence courses, education by television (modern mathematics in particular), radio broadcasts, and so forth. The question of whether the training of all teachers should be provided at the university or outside it in the higher teacher training institutes (the former teacher training colleges) is of great interest at present. Because it is an important cultural center, a meeting place of ideas and a privileged center of research, the university would probably offer the most stimulating conditions for teacher training. Others believe that teacher training should take place outside the university, but that closer contact should be established through the organization of common courses, lectures, and other shared activities. The controversy generated by this issue is clearly going to continue for some time.

Renewed Secondary Education (1969-1970)

The renewal of secondary education or the *New Education* is one of the most important reforms of recent years. It has modified the goals, curricula, methods and spirit of the first cycle of secondary education. Until now this reform has been applied on a purely voluntary basis and at the present time 239 secondary schools have carried it through. It may be said, although it is an over-simplification, that the democratization of education in Belgium derives from four basic and sometimes contradictory principles:

1. The secondary schools must provide education for the masses in the sense that the whole of the school-age population must be admitted to the lower secondary cycle at the very least.
2. The great majority of pupils should not be required to make decisive choices between different branches of education until they are 14 or even 15 years old.
3. At the same time, pupils should be gradually prepared for the time when they must take decisions and make choices by encouraging them to discover their natural bent and interests; this means that mass education must become more individualized than ever.
4. An education must be provided which trains pupils to become active citizens, capable of understanding the problems of the society in which they live, and of facing up to them.

How should the pupil be taught to choose? The problem is an organizational one: the child must be led to make increasingly decisive choices in matters concerning his activities and studies; these choices must be made judiciously in the light of all the issues involved, in other words, after the acquisition of information, experimentation and reflection. This points to the need for a system of *experimental activities*, *complementary activities*, *free activities* and *options*. The objective is to develop as many positive aspects of the personality as possible. The first stage, from 12 to 14 years, is the *observation* stage. The second stage, from 14 to 16 years, is the *orientation* stage and the third stage, from 16 to 18 years, is the *determining* stage. The latter stage is the long cycle whereas the short cycle, created this year, offers courses leading to a professional qualification for pupils wishing to terminate their studies a year earlier.

The following quotation captures the essence of the renewal program for secondary education in Belgium:

> All forms of education must contribute to the gradual creation of a democratic climate judiciously adapted to the age of the pupils...; the introduction of a permanent dialogue between pupils and teachers; an intensification of self-government so that young people become more capable of making a choice and of living in freedom; and the establishment of a system for associating pupils with the management of their schools. Instead of considering the curriculum primarily as a list of academic subjects, there is a growing tendency to regard it rather as a means of defining educational goals. The curriculum must generally present an inventory of the basic notions with which pupils in the age group in question should be familiar and which, above all, they should be able to apply in a given field of study or activity. It should provide a scale by which to judge performance and skills and it should ensure that pupils are introduced to modes of thought enabling them to grasp the essential nature of a certain number of disciplines. Finally, it should ensure that branches of knowledge are not divided for teaching purposes into arbitrary slices, endeavoring instead to promote a global approach to reality by inculcating a sense of relationships.[1]

Teacher Training for Renewed Secondary Education

In former times teacher education laid down the line which would ideally be followed by the teacher and this, in turn, determined the line to be followed by the pupil. At the present time, with the renewal of education, an attempt has been made to establish the objectives of the first cycle of secondary education, to which the teacher's situation must be adapted. In other words, during the two years of psychological and educational training, there is a complete symbiosis between the teacher training institute and the demonstration schools. The fragmentation and isolation of activities which used to be the practice in the demonstration schools is being replaced by the principle of continuity and educational unity. Future teachers are, as far as possible, involved in the organization of the *New Education* in the demonstration schools. They take part in the preparation of lessons, scientific questionnaires and teaching materials. They attend meetings of the class committee and, with teacher educators, they make critical analyses of the *New Education* publications concerning curricula, methods and continuous assessment. They are called upon to participate in teachers' meetings and are represented on the parents' committee. In short, they have an active part to play in the whole changing life of the demonstration schools.

There has been no great change in the curricula used in secondary teacher training. What is different is the approach to its various component elements. Since future teachers will have to teach adolescents to make choices, they are trained to make choices themselves. With their teachers they discuss and "construct" their courses in accordance with their aspirations and with the requirements they will have to satisfy in their practice teaching at the secondary level. Purely academic knowledge, to be transmitted as such to the pupils, is accorded much less importance; what becomes paramount is the approach to problems, open-mindedness toward the world and constant receptiveness. Emphasis is placed on the importance assumed by the *other* in the formation of the personality and on the value of effective interpersonal relations. The goal of teacher training, then, is self-knowledge and knowledge of others. It seeks to train the student in relationships with others "at the right distance" and to analyze situations likely to motivate his behavior and that of others. A multidisciplinary education is emphasized which entails the breaking down of the partitions between disciplines and requires teamwork. Finally, we live in a society whose nature is such that the individual is obliged to make constant efforts to remain effective. He must be prepared, as early as his school days, for change, for the revision of his aims and his behavior, if he does not want to become, at the outset of his career, useless before having had a chance to be useful! Science by its very nature, is a system in a constant state of reorganization. In ethics, although the state of affairs is less clear, an awareness is developing of the need to admit an attitude of constant revision and of continuous adjustment regarding morals in relation to the problems posed by new circumstances. Our education must therefore aim at creating beings capable of facing what is unknown to us, or, in other words, every form of contingency.

All prospective teachers receive a practical and theoretical training in the use of the mass media of communication in order to be able to use these new methods of communication in their periods of practice teaching and for personal learning. For instance, the teacher training institutes are equipped with language laboratories and laboratories with various audio-visual media of different types so that the student can familiarize himself with various mechanisms and methods of operation. The recorder is commonly used to make the student aware of his accent and his intonations, and to enable him to experiment with the pitch of his voice and other variations. Closed circuit television is provided in certain teacher training institutes and television recording apparatus is being used with great success to enable the student to carry out self-criticism. It is indispensable that every future teacher should "see" himself teaching, in order to correct his posture, gestures and general presentation.

Learning to teach is far more diversified than it was in the past. Although formal lessons still exist, the students' training is based mainly on discussion, the collective preparation of activities to be carried out in the demonstration school, and the preparation of questionnaires to guide adolescents in their personal research. The trial lesson given by a single student is often replaced by new procedures such as an activity or lesson prepared and conducted by two or three students simultaneously, sharing among themselves the teaching of the subject or the organization of the discussion. Or the same lesson may be given by two or three students at the same time in two or three different places with groups of adolescents of the same level; other student-spectators move freely from one place to another so as to be able to make comparisons and choices. Finally, teaching sequences, chosen in the course of a lesson, are developed and performed alternatively by two or three students taking over from each other at given moments. All these activities are, of course, followed by meetings in which extremely profitable discussions take place. If all these activities are successfully carried out, far from fragmenting a subject, they appear as the integrated work of a group and are calculated to interest prospective teachers in the continuity involved in teaching activities. It is important to discover and understand the difficult or delicate "points" in the lesson, such as when the subject matter is introduced, points of transition, synthesis, and relationships to broader concepts. In establishments which are materially well-off, that is to say those which are equipped with closed circuit television, it is possible to show in practical fashion to future teachers, using for the purpose three to five students, the way to deal with these delicate "points" on which so often the success of a lesson depends.

The training of teachers utilizes group education, with particular emphasis on leadership, as a positive source of suggestion and encouragement calculated to improve efficiency. The group serves both as the context and as the medium of training. Group discussion is a regular feature of the active life of teacher training establishments and students are given a great deal of information concerning all aspects of group dynamics in order to function effectively in them. Lastly, teacher training is based on participatory education. Student committees and attempts to involve students in the management of their schools are taking shape in the institutes, with the aim of giving students as much responsibility as possible. It must be admitted, however, that there are still today, although increasingly rare, teacher training institutes in which the future teachers learn of the need to develop the potential for participation possessed by their secondary school pupils, while they themselves live in a hide-bound and non-permissive atmosphere in which there is practically no dialogue between them and their instructors. This is a legacy from the former teacher training colleges, which will soon be no more than a memory!

For the purposes of assessment, modern methods of evaluation are applied, such as multiple-choice tests, examinations in which books are permitted and self-assessment (in certain establishments only). With respect to each discipline, the questions concerning special methods relate to one of the aspects of the *New Education*. The student must elaborate on the aspect in question by reference to his own experience, to lessons that he has given or activities which he has developed within the framework of the *New Education*; and, if he so desires, he may draw up a criticism of the activities of the demonstration school in which he does his teaching practice, supplemented by personal suggestions. There will be occasion in the future to move progressively towards continuous assessment in institutes for secondary teacher training, in view of good results which seem to have been achieved in primary teacher training where this system has been in force for the past two years. In any case, a system of continuous assessment should be used in the near future for the purpose of confirming the future teacher's preparation for teaching. From the point of view of aptitude for teaching, an examination on the basis of two lessons presented before a jury at the end of the teacher training course is no longer in line with the philosophy of our renewed education. It would be far sounder practice to award a yearly average on the basis of all the teaching activities carried out in different establishments.

The renewal of teacher training, which at the present time is still incomplete and open to further development, forms part of a general socio-pedagogical movement which involves an entirely new awareness of the situation. The school, as a reflection of society, should continually review its objectives and its resources, so as to be able to adapt itself without delay to the social and economic requirements of society. The constantly changing teacher must never consider that his own efforts toward renewal are confined to a given period of reform. From the beginning of his career until its very end, the whole range of his teaching activity should bear witness to his response to the demands of a world that is in a state of upheaval and incessant change. The doors of the school should be opened not only to present pupils but also to past pupils, to parents, even to any citizen wishing to continue his education; libraries, documentation services, work-rooms, and all other facilities should be made available to everyone by the school in its role as a center of culture. As a place where ideas are exchanged and from which knowledge and ideas flow, the school must not limit its range of activities and its influence. This is surely the case with a good many schools in the Soviet Union, Australia and the United States of America. In some places in the U.S.A., libraries, work-rooms and music rooms, admission to which is free of charge to every student, whether or not he belongs to the establishment, are open at all times, including Sundays and holiday periods.

There is every reason to believe that the teaching profession will become more and more dynamic. Teachers will often be called upon to move from one school to another and from one region to another, adapting themselves anew. They will have to "reconstruct" their courses, resume their studies at all ages in a spirit of flexibility, liberty and mobility. In view of this prospective increase in educational and human efficiency, those teachers who deserve it should surely be granted, at seven year intervals, a year's sabbatical leave. In Belgium the question of sabbatical leave has not been considered so far in the context of the *New Education*. There are good grounds for believing that the *New Education* will free our students from the whole gamut of superiority and inferiority complexes created by the antiquated emphases on competition, still defended by certain teachers due to the vanity of certain families. Lastly, the pupil-teacher relationship, the very essence of which will have changed, will have a favorable effect on the mental health of students who will have become their teacher's partners without respecting them any less for it, provided that these teachers are genuine educators.

Conclusions

The renewal of primary and secondary education is in progress; it will *never* be finished. Its implementation will always be governed by the concern to adjust it to the requirements of a constantly changing society. The renewal of education for teaching is being carried out at the same pace as that of primary and secondary education, and the changes introduced into it match those introduced at the latter two levels. As far as prospective teachers are concerned, the renewal is being brought about "on the job." Ministerial directives have less effect here than do the needs of the demonstration schools that come to light as the reforms are introduced. Formerly, teacher training was always at least twenty years behind life because of the concern for the standardization of curricula and methods, derived from a fundamentally conservative outlook. At the present time, a number of innovations are being introduced into teacher training in an attempt to make it true to its vocation. These innovations differ according to the situation; they sometimes occur by chance and some of them are more far-reaching than others. But common to all of them is an open-minded willingness to experiment and explore in the search for better methods and techniques. It is true that this will produce different styles of teaching and forms of teacher training. But what is the advantage in having teachers all cast in the same mold, conditioned, "broken in," all reacting in the same way to the problems of education and personality? One thing is certain: the teacher of tomorrow, as Belgium's Minister of Education said last year, "will be a type hitherto unknown"!

Reference

[1] Abel Dubois, Minister of Education, who has launched the reform aiming at the of education.

IV

INCREASING THE EFFECTIVENESS OF TEACHER EDUCATION: INNOVATIONS IN CURRICULUM, METHODOLOGY AND ORGANIZATION

New Developments In Primary Teacher Training In Denmark

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Pre-Service Primary Teacher Training In Denmark

In Denmark, future primary school teachers must be educated in such a way that they will be able to teach any of the classes in the Danish primary school system. Herein lies the first problem confronting teacher education at the primary level in Denmark: on the one hand, teachers must be prepared to cope with a broad series of general and elementary subjects such as writing, Danish, arithmetic, and religious instruction; and on the other hand, they must be prepared to deal with some specialized and more advanced courses such as mathematics, languages and social sciences. A second and related problem in Danish teacher training is the need to achieve a balance between the pedagogical and content courses that comprise the student teachers' programs. From 1960-1965 a committee undertook a study of the pre-service primary teacher training program in Denmark and concluded that any revision of this program must involve "a raising of the level of teacher training." On August 1, 1969, a new program was implemented the aims of which can be summarized as follows: the student teachers acquire theoretical background for working in the primary schools and for following developments in the individual subjects; the student teachers are trained in planning, carrying out, and evaluating their teaching by utilizing their theoretical assumptions; and the student teachers' personal development is furthered through working with the material, through cooperation, and through joint responsibility for their education. The first group of student teachers to participate in this new program will complete their studies in January or June, 1973.

The Revised Teacher Education Program, August, 1969

In order to gain an understanding of Denmark's revised teacher training program, one must examine several of its facets such as entrance requirements, curriculum, and examinations. In short, however, two principles guide and support the revised programs, namely, training the student teachers to educate themselves and giving more emphasis to the pedagogical aspects of the field. In the first instance, it is now realized that teacher training cannot consist solely of the mastery of a well-defined subject. Equally important, the student teachers must be trained to educate themselves so that after they have completed their training, they can further develop and supplement their academic and professional knowledge in step with the development of the sciences and education. Consequently, they must be introduced to working methods as well as subject material; and in order to promote this development, provision has been made for a number of guidance periods to supplement the instructional periods in the different subjects. In the second instance, previous teacher training programs (1818, 1894, 1930) were based primarily on the idea that future teachers should acquire a certain amount of knowledge in those subjects that they would be teaching. Now, however, it has been recognized that since teacher training is pedagogical training, the pedagogical subjects (education, teaching methods, and psychology) must be given equal importance. Only by emphasizing these pedagogical courses as well as the content courses, can the student teacher attain the insight necessary for his future professional role in the school.

The basic requirement for entrance into a primary teacher training college in Denmark is the school-leaving certificate. Recently, however, a two-year introductory course was inaugurated which enables promising candidates who have completed ten years of schooling but who do not possess the above-mentioned certificate to prepare for admission. It is expected that this supplementary two-year course will raise the entrance standards by providing the colleges with a larger and more qualified group of candidates from which to select future student teachers. Formerly the training period for primary teachers was of three years duration; since the revision of 1969, however, this training period has been extended to three and a half or four years. It is hoped that this innovation will permit the student teachers to specialize in two academic subjects and to concentrate on certain age groups of their choice.

The curriculum of the Danish primary teacher training colleges is organized around the main subjects taught in the primary schools, Danish (including writing), arithmetic/mathematics, and religious instruction. In addition to these studies, student teachers specialize in two academic subjects, which will enable them to teach in the primary schools' oldest classes, the eighth through the tenth grade. The teachers of these content courses introduce the student teachers to the goals of the different academic subjects and then proceed to problems of methodology. These content courses are also taken up in the pedagogical courses; and every student teacher must specialize in two pedagogical areas, such as "teaching in the younger classes" or "teaching pupils with special difficulties." The seven semester curriculum dictates the following allotment of hours for specific subjects:

Subject	**Hours**	**Subject**	**Hours**
Pedagogy	98	Creative art	112
Psychology	168	Singing/music	98
Teaching Methods	140	Physical exercise	140
Practice teaching	112	Arts and crafts	112
Danish	140	Social subjects	84
Arithmetic	140	First special subject	364
Writing	42	Second special subject	364
Religious knowledge	168	Pedagogical speciality	224

Total: 2,506

Syllabuses for specific courses are prepared by special committees, and particular attention is focused on the problem of selecting materials. All syllabuses are designed according to the following model: goal, content, and examination.

At the end of the first year, the student teacher's performance is evaluated on the basis of examinations in Danish, arithmetic, writing, and religious knowledge and according to reports on his practice teaching. The rector of a training college may no longer suspend a student teacher who passes the examinations and receives a satisfactory performance report in practice teaching. The introduction of the examination as a means of evaluation emphasizes the desire to measure the student teacher's performance objectively, to set some standard of quality for all the various teacher training colleges, and to make the student teachers responsible for their own training. Generally the material covered by the examinations corresponds to the material presented in the classroom as prescribed in the syllabus. When an examination is held, an external examiner officially appointed by the Ministry of Education participates. The examinations may be oral or written.

If one compares the teacher training program envisaged by the Reform of 1969 with earlier pre-service training programs for primary school teachers one might conclude that there are four salient differences. First, the new program places higher demands on the future teachers with regard to both academic and pedagogical subjects. Second, it places more personal responsibility on the student teachers for their own training, education, and development. Third, it emphasizes the examination as a means to achieve a more professional and objective standard of quality. Fourth and finally, it has raised the entrance requirements to the various primary teacher training colleges in Denmark. In order to obtain information regarding the implementation of the program outlined by the Reform of 1969, a questionnaire was sent to the rectors of the 29 primary teacher training colleges. Although only 15 of the 29 rectors replied to this questionnaire, the nature of their responses might shed some light on the actual state of the pre-service primary teacher training program in Denmark, as well as the next revision that is to be undertaken in 1975.

Regarding changes already implemented as a result of the Revision of 1969, most of the rectors who responded to the questionnaire seemed to feel that the most important innovation has taken place in the practice teaching component of the program. Formerly student teachers participated in single hours of practice teaching; now they participate in three week periods of practice teaching which permits them to consider and demonstrate the teacher's role in a broader fashion. Other important changes in the program include the introduction of the "workshop style" of teaching which has placed more responsibility on the student teachers and has broken down the formerly strict role differentiation between teachers and student teachers.

Concerning future developments in pre-service primary teacher training, the fourteen responding rectors foresaw the following major tendencies: a reorganization of the academic aspects of the program to give more weight to the social sciences; an increased emphasis on creativity, productivity and specialization in the academic courses; a greater stress on the general pedagogical subjects; a reduction of "hourly" practice teaching in favor of "period" practice teaching; a revision of examination forms and marking practices; and finally, a reduction of the semesters of formal study to allow more time for independent study. Since the Ministry of Education plans to incorporate these findings into its next revision, they may be the best indication of the direction that pre-service teacher training in Denmark is going to take in the near future.

In-Service Primary Teacher Training In Denmark

In 1963 a law was passed that gave the Royal Danish School for Educational Studies responsibility for the in-service education of primary school and training college teachers. The primary aim of this legislation was to supplement and update the education then being offered in training colleges. With the extension of its work in 1963 to include the development of scientific research that might be used in the public school system, the School was given university status. Although the Royal Danish School of Educational Studies is based in Copenhagen, it has seven branches in different parts of the country; and the instruction taking place in these branches is the School's principal responsibility. The School in Copenhagen is composed of institutes, each of which has independent responsibility for a subject area. In each institute there is permanent staff, about 100 in all, supplemented by a very large number of temporarily engaged teachers, about 900 in all.

The primary objective of any in-service teacher education program in Denmark must be to increase the teachers' knowledge in both academic and pedagogical subjects so that they can make proper observations of the world around them, define problems in the classroom, and continue their own education and development throughout their lives. Each year the School of Educational Studies sends a prospectus to the teachers of Denmark, about 45,000 in all, with information about programs in the institutes which, among other things, include courses within the primary school subject range. It is a characteristic of the instruction given that its point of departure is the academic or theoretical subjects, not the everyday problems encountered in the actual school work. No matter how pressing these problems may be, the hypothesis is that a general improvement of the academic standard of the teachers will affect the standard of teaching in schools more than instruction consisting of commentaries on isolated problems confronting the teachers in the school's everyday life. The pedagogical and psychological subjects add to the teachers' background in the general planning and organizing of instruction.

The majority of the courses conclude without an examination. Completing the course does not automatically imply a higher salary or greater professional authority for the participant, but naturally it can lead to advancement in his career.

Teachers in Denmark can participate in the instructional program at the School on a full-time basis, and at present there are approximately 300 full-time students. In such instances the state pays the teachers' salary for 10 months, and the students receive 14 to 18 hours of instruction per week. This financial aid has been given since 1954. Another way of taking part in the in-service training program is as a part-time student and there are approximately 7,000 part-time students who enroll for up to six hours of instruction per week (each course has two or three hours per week). Since 1969 participation in the in-service training program could form a part of the teacher's obligatory number of weekly teaching periods. For example, attending a course of three hours a week would be equal to two hours teaching. The third possibility for in-service training is represented by the shorter courses and a fourth possibility includes graduate courses. Presently there are 1,000 students taking a new graduate education program, which lasts from three to five years.

The graduate studies program, which began in 1965, has three aspects. First, there is the program in which the ratio of psychological to pedagogical disciplines is about three to one; graduates from this program will become school psychologists. Second, there is a more pedagogical program in which the psychological and pedagogical disciplines are represented in the proportion of about one to three; graduates from this program will work in the schools as superintendents. Third, there is the academic pedagogical program in which the academic and psycho-pedagogical disciplines are presented in a proportion of about three to one. Here the students follow a program aimed at integrating pedagogical and psychological knowledge so that they can take part in curriculum development.

The aim of these graduate studies is to give particularly interested teachers a scientific basis for dealing with the psychological, pedagogical and academic problems of the primary school. These studies, in contrast to the other in-service courses, conclude with an examination and a degree corresponding to the Masters Degree. Graduates can continue their academic studies until they earn a doctorate. The graduate studies program has produced a new kind of teacher who is highly qualified in academic as well as pedagogical subjects and who is capable of analyzing the problems of the public school system. If a sufficient number of this kind of teacher are placed in the public school system they will be a source of inspiration for further development and innovation.

In conclusion, the teacher in Denmark is traditionally free to choose his own methods and take many educational decisions. This gives him a great deal of responsibility, but also a certain freedom which makes his job more exciting and exacting. Every effort must be made, however, to prepare teachers to live up to this challenging task assigned to them. The Royal Danish School of Educational Studies, with its various in-service programs, provides many teachers with the academic and pedagogical training necessary for them to fill their role in the primary school and in a modern dynamic society.

Innovation in Teacher Education in Bulgaria, Czechoslovakia, Romania and the Union of Soviet Socialist Republics

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The work of the teacher, in which creative activity should play a distinctive part, depends in great measure on the quality of the training provided in the higher educational establishments which prepare him for his profession. The methods employed for encouraging creativity may be divided into three categories, according to the degree of difficulty and the aims involved: firstly, assignments meant to stimulate the memory, involving the acquisition and retention of new notions and concepts; secondly, assignments where the students are given problems to solve on the basis of examples furnished by their teachers; and thirdly, assignments of a creative nature, which the student solves by devising his own methods. Analysis of the instruction provided in teacher training institutes of the People's Republic of Bulgaria shows that the first two categories predominate in the training program, so that the student's activity is in great measure imitative.

One solution is to be found in involving the students in research activities, as a result of which their cognitive activity is enhanced and they learn to solve more demanding and more complex problems. Teacher education provides a variety of opportunities for engaging students in research. For example, teacher training colleges invite the participation of students in activities which help them to acquire further knowledge of their own districts or regions. They study its natural resources, flora and fauna, archaeology and history. At the same time, specific ways and means must be found of developing a desire for creative work on the part of the students themselves, and of determining the skills and techniques necessary for independent and creative work.

Acquisition of the capacity to work independently and actively depends on the methods employed, particularly in teaching the students to assimilate and apply knowledge. Investigations carried out in the training institutes have revealed that by no means all the students work systematically throughout a whole semester, and that only half take notes systematically. This lack of method and of self-discipline leads to an accumulation of subject matter which cannot be quickly digested before the half-yearly examination. At the Pleven Pedagogical Institute, the promotion of independent work by the students is the subject of close attention, and the extent to which students are capable of planning and organizing their own work has been investigated. Research has shown that the majority of students are capable neither of organizing their time-table nor of working methodically. Shortcomings were also disclosed in relation to private study with textbooks. From written work prepared by students on the basis of certain lectures, serious deficiencies in the assimilation of material presented by the lecturers were brought to light. There was evidence in the case of first-year students that their secondary education had failed to train them adequately in taking lecture notes and to instill in them the capacity and the habit of working independently with textbooks.

As far as developing independent work by students is concerned, the most successful educational medium is the seminar. Seminars are planned in such a way that the students are required both to prepare systematically for them and to participate actively in them. It is true, however, that lectures can perform the same functions, and also constitute an important means of activating the student's intellectual activity and developing his independence. To this end, lectures must, both in content and methodology, meet certain conditions. For example, in the teacher training institutes not only is emphasis placed on the high theoretical and methodological standard of lectures, important as this is, and on the need for them to present problems, to make the student reflect and seek his own solutions; it is also considered essential that the actual content of the lectures be related to the solution of practical problems and to the students' own training. For example, after lectures on teaching methods and after discussions which permit a broad examination of these methods, students are required to spend several days observing and assessing the process of teaching as it is actually conducted, and to verify, for example, the validity both of the questions posed by the teacher, and of the children's answers. The establishment of such a link between theoretical lectures and the solution of actual problems stimulates the students, leads them to think for themselves and encourages them to try to find background literature for themselves which will help them to acquire a better grasp of the subject.

Written tests, set periodically in the form of exercises and problems and lasting 35-40 minutes for the major subjects, are a means of ascertaining whether the students are working systematically, and whether their knowledge of the subject studied is sound. Shorter topics are dealt with in 10 to 15 minute tests. Individual students submit work which is then expanded through discussion of its positive and negative aspects. Another useful contribution to the development of independent work is made by setting the students tough, specific problems and situations encountered in actual teaching practice to solve on the basis of facts drawn from practical experience. This is extremely effective and encourages students to compare the knowledge acquired in practice with the theories. Another approach used in seminars, involves their giving their personal opinions on a variety of statements made by eminent specialists. The students must expound and defend their point of view by reference to theoretical and practical considerations.

Czechoslovakia

An experiment in higher-level training of women teachers for pre-primary schools

In the Czechoslovak Socialist Republic, the academic year 1970-1971 saw the experimental introduction, at the education faculties of Prague and Olomouc, of teacher training for pre-primary teachers. This experiment marks an important step towards bringing the training of pre-primary teachers up to the same level as that of other categories of the profession, that is, that of higher education. This experiment is at such an early stage that definitive conclusions cannot be drawn from the experience acquired so far. In the curriculum, the study of biology, psychology and education is combined in equal parts with training in the methodology of those subjects and activities which underly the child's physical and mental development up to the time when he enters primary school. Compared with the training of pre-primary teachers in secondary level establishments, the syllabus in the faculties marks a welcome improvement in the teaching of biology. It also lays the foundations of a sound training in psychology and education which is indispensable to the work of the pre-primary teacher. Training in these subjects is closely linked with methodological studies covering all those major aspects of nursery school teaching which are necessary for the harmonious development of children of the age group concerned. This approach to pre-primary teacher training, as reflected in the curriculum, creates favorable conditions for compulsory attendance in the final grade of nursery school (scheduled for introduction in the next five years) where considerable attention must be given to the intellectual development of children and corresponding utilization of their intellectual capacities. The system of optional subjects (music, art or physical education) provides the student teachers with the opportunity of exercising their individual abilities and interests.

Reform of teacher education for the first five grades of the basic (nine-year) school

The training of teachers for the primary grades (grades 1-5 of the basic school), provided in higher educational establishments since the reform introduced in 1959, has had a complex history of development during the past twenty years, firstly because the opinion of educationists concerning the content of such training has not been unanimous and, secondly, because the theoretical implications have not been fully worked out. Until the academic year 1969-1970, and in accordance with the reform of 1967, teacher training for primary grades was combined with specialized training in one of the following subjects: Russian language and literature; art; music; physical education. Students thus trained were qualified to teach one of the above subjects in grades 6-9. For some time previously, however, many educationists had been expressing doubts concerning this combination of training for grades 1-5 with specialized training in the subjects mentioned, believing that teachers of primary grades should receive a better grounding in subjects of critical importance in grades 1-5, or at least in their native language and literature and in mathematics, without having to qualify for teaching such subjects in grades 6-9. This concern sprang from the recognition that the training of teachers for the primary grades poses many problems and is indeed the most complex element of teacher training as a whole. What makes primary teaching such an important and responsible function is that it lays the foundations of the childrens' education, developing from a very early age, their reasoning, independence and creativity, and creating the basis for the harmonious development of the child's personality. The complexity of primary school work demands of the teacher the acquisition of a broad range of knowledge which his secondary education has not provided, as well as new skills (notably in music, art and physical education) whose acquisition requires further time. He must possess the knowledge of education and psychology which are essential to the proper exercise of his function as educator; he must have a thorough knowledge of each individual pupil and must have at least a basic understanding of child anatomy and physiology.

The main features of the current reform are the following:

1. Training to teach one subject in grades 6-9 has been removed from the curriculum.
2. *Primary school education*(reading, writing and elementary instruction) has been introduced as a discipline specific to this course, with its own subject matter, laying particular emphasis on subject teaching, the theoretical foundations and their practical application.
3. The study of the native language and of mathematics is being modernized in content, form and method, as is the theory of teaching these subjects. In the demonstration schools, classes of the traditional type will operate alongside classes employing new methods, so that students from the faculties of education will have the opportunity of mastering the most effective educational techniques and putting them into practice.
4. Lectures, seminars and practical work will lay stress on independence in the students' work, through the execution of tasks and projects and the solution of specific, relevant problems.
5. Students who possess the necessary qualifications and the desire to take more advanced work in music, art or physical education, may enroll in special courses which will be organized in those subjects, provided that a minimum of 10 students are enrolled.
6. The examination system includes two State examinations: the first, in native language and mathematics, held at the end of the fourth semester, and the second, in primary school education and the teaching of native language, mathematics and the subjects under the heading of "subject teaching," at the end of the eighth semester. Where special courses of the type mentioned in 5 above are organized, the teaching of the subject involved will be included in the second State examination.
7. Special departments are to be set up in faculties of education to supervise the training of teachers for grades 1-5 of the basic nine-year school, together with institutes or centers to supervise teaching practice by means of modern techniques and by personal supervision.

Each section of the curriculum is further divided into subjects. Teaching practice includes practical work in the fields of communication skills and social and cultural activity. The syllabus for the Slovak language includes the language itself, literature for young people, the use of books and newspapers and the teaching of native language and native literature. The mathematics syllabus includes: mathematical logic and the theory of sets, the theory of natural numbers and its application in teaching, algebraic structures with one or two applications, basic topology, magnitude of geometrical figures and the teaching of mathematics. The other fields of study are similarly organized.

Practical exercises in communication skills in the training of teachers for grades 1-5

During the 1970-1971 academic year, in the Faculty of Education of Prague University and as a result of the reform of teacher training for grades 1-5, a period of two hours per week was set aside throughout one semester for practical work in communication skills. In 1971-1972, the same subject is being introduced in certain other faculties, but on an experimental basis only, as the content of the subject has yet to be fully defined, and the facilities are not yet available in all faculties. What is the purpose of introducing this subject? The point of departure is the fact that the teacher's work is conducted in direct contact with his pupils. Unless he establishes the necessary degree of contact, the teacher will not achieve the desired results, and his work will be ineffective; the impact of education is directly related to the degree of contact. The degree of contact depends essentially on the teacher's capacity to make the subject intelligible and interesting, and to exploit the various situations which arise during the lesson for educational purposes.

While still in the education faculties, student teachers must learn certain forms of behavior in educational situations, and learn to use such situations as a means of securing the designed educational aims. A teacher may put across the message in a variety of ways: he may, for example, speak too rapidly or too loudly, too softly or too slowly. It depends on the situation whether these are faults on the part of the teacher or whether they are deliberate, for a teacher may speak in a deliberately quiet voice, for example, to oblige his pupils to concentrate. In order to be able to direct his classroom behavior toward the desired end, the teacher must master the techniques of movement and voice production, thus enabling him to move or speak correctly in front of a class, a capacity many teachers lack. Research conducted ten years ago showed that a large proportion, more than 40 per cent, of teachers suffered from speech defects which interfered with their intelligibility; for the sake of comparison, the proportion of members of the theatrical profession with similar defects was only 3 per cent.

Exercises in communication skills may be divided into three phases, as research over several years has shown. The first phase involves the development of the students own ability to project, and consists of the development of self-expression and the elimination of faults of speech and movement, of breathing, articulation and diction, of clumsy or abrupt gestures. The second phase involves the development of the capacity to communicate, comprising an ability to understand the pupil and interpret his behavior and to combine the pupil's interest and the teacher's purpose. This relatively self-contained phase also consists of theoretical and practical work, and the familiarization of the student with situations in which he learns to act in such a way as to balance the requirements of the situations and his own purposes. The third phase of training concerns the use of educational material, its selection, processing, organization and evaluation. It consists essentially of a set of carefully thought out exercises and gradually introduces the student to the actual process of teaching. Experience acquired so far shows that a single semester is insufficient for mastery of the complex skills of communication, but expansion of the program is limited by the time available and the competing requirements of other subjects and other types of practical work. While there can be no doubt that proper application of communication skills is of importance in teaching at the primary level, as an experiment conducted over a period of several years has confirmed, the actual implementation of this idea has run into difficulties owing to the lack of qualified instructors. At present, it is only possible to satisfy these stiff requirements in towns where, for instance, theatrical or drama school staff are available as part-time instructors.

The use of educational technology in teacher education

Instruction in the use of teaching aids varies from faculty to faculty. Initial difficulties in terms of material and staff are being gradually overcome, and the standard of instruction in the correct use of educational technology is improving, as may be seen from the example of the Faculty of Philosophy of Presov University. In order to be able to handle large numbers of students, it was necessary to create an appropriate infrastructure of equipment and instructors. Consequently in 1967 it was decided to install a closed-circuit television system, which is still being employed successfully. Lessons are transmitted by this means to viewing rooms equipped to accommodate 30 students, who are thus able to follow on the screen the work both of the teacher and of the class, the sound being transmitted by microphone. The methodologist may thus comment without interrupting the class itself, which would be impossible in the classroom. The use of video-tapes, which permit the reconstruction of image and sound, and analysis of the lesson in the presence of the student-teacher who gave it, has not yet been introduced in the faculty. The faculty has a low-voltage electronic laboratory fitted with equipment for measurements and repairs and employing two graduates of the low-voltage electrical engineering department of the industrial school, who are also responsible for the day-to-day maintenance of the equipment of the faculty's language laboratory. These technicians were also responsible for the installation of the closed-circuit television in the faculty demonstration school and carry out the servicing and repair of the complex electronic equipment. The faculty has also acquired 16 mm. film projectors, an epidia-

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scope, independent and semi-automatic slide projectors, tape recorders, a radio receiver and a record-player. This equipment constitutes the basic material of the training laboratory.

Although in the 1967-1968 academic year these practical activities were optional, the students showed considerable interest in them. The following year, therefore, the faculty board was invited to include them in the fourth-year curriculum, so that students might familiarize themselves with the techniques and proper utilization of such teaching aids before they began their period of full-time teaching practice. The time-table drawn up for the practical activities allowed each student six hours per semester in which to familiarize himself with the equipment. The activities are organized in two weekly periods of three hours, the first introductory period being attended by only three students at a time. The second period is attended by the same three students, who have by now learnt to work with the equipment, and by three new students. The former serve as instructors for the latter, while at the same time continuing their own practical training. The students thus take turns throughout the semester. A technician is always present, and the activities are directed by a member of the teaching staff. In this way, the students assume the roles both of pupil and of instructor. In addition to these practical activities, and by agreement with the teachers responsible for providing instruction in the theory of teaching individual subjects, the students familiarize themselves with the methods of using the equipment in the teaching of selected subjects. They must be able, by the time they begin their teaching practice, to put their theoretical and practical knowledge of the equipment to work.

An experiment in the training of special-subject teachers for industrial and specialized schools

The development of "specialized" vocational and technical schools rendered necessary by the industrialization of Czechoslovakia has led not only to an increase in the number of teachers of special subjects, but also to reforms in their training which arouse considerable interest in the educational press. The training of teachers for this particular type of school previously involved only an additional examination of a methodological and practical nature, and no advanced knowledge of education or psychology was required; this has now been replaced by a more complex program of training, which is broader in its range than that provided for teachers of general subjects in secondary schools by the faculties of philosophy and natural sciences in the universities. Two types of training have been developed: the trainees can acquire their actual teaching qualifications either by correspondence or while studying their special subjects. The first method is mainly for graduates of higher technical schools who become teachers after spending several years in industry; the second, recently introduced, involves the provision, usually during the third year of studies, of teacher training simultaneously with training in the higher technical diploma subjects. There is no reduction in the amount of the latter, the teacher training being additional to it. This linking of higher technical training with teacher training provides a sound basis for post-graduate training in both fields. So far there has been no research into the relative merits of the different types of training. The majority of specialists are inclined to favor the first method, since it allows the teachers to bring the experience acquired in industry to bear upon the training of young middle-level technicians.

The training of special subject teachers for industrial and specialized schools is still an open question. By the terms of the Schools Act of 1960, such teachers must have received higher education. Specialist opinion on the matter remains divided. Some specialists consider that it is desirable for them to have full technical qualifications, while others believe that such teachers should have higher education, but not of the higher technical school type, and that their training should take account of the specific nature of the industrial and specialized schools. Discussion of the syllabus centers on the question as to what should be the relationship between social sciences and education on the one hand and special subjects on the other. In some higher institutions, special subjects predominate, and the partisans of this relationship stress that without a fundamental understanding of his specialty the teacher cannot be qualified to work even in an industrial school. Others support the opposing view: that it is enough for a teacher in an industrial school to have received a secondary education in his special subject, and that the central element of his training for the profession should be the education element. In this connection, they rightly point out that the teacher in an industrial school is daily faced with educational problems different in nature from those in schools with selective

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entry, and that he should thus have a sound training in teaching. On the basic question of ensuring that teachers for industrial and specialized schools have a complete higher education corresponding as closely as possible to the requirements of their work, the opinions of both groups coincide.

The training program of the Higher School of Mechanical Engineering and the Textile Industry, at Liberec, constitutes the first attempt to provide combined special subject and teacher training for such teachers. Analysis of the experiment should reveal whether this system, distinctive both in content and method, has proved its worth, and whether it is necessary or expedient to introduce such a system in future years or whether it is necessary to abide strictly by the Schools Act, according to which teachers in industrial and specialized schools must have a full higher technical diploma plus the necessary teaching qualifications. The training program at Liberec consists of a four-year course, the final year being conducted by correspondence. It was considered essential that for teachers in industrial schools the practical side of the training should be reinforced, and for this reason the fourth year is spent in production practice on the shop floor, the students being required to keep in close contact with the industrial or specialized school. During the seventh and eighth semesters, training by correspondence is provided, in education only, since the course in the special subjects ends during the sixth semester. The teacher training course covers seven semesters, from the second to the eighth. Psychology and education are studied in the second and third semesters and instruction in the methods of teaching the special subjects begins during the fourth semester and continues for five semesters. Teaching practice begins in the third semester and comprises regular practical work for a period of two hours per week. During the sixth semester, there is a period of full-time teaching practice.

The experiment has not yet been evaluated, but there is a strong case for reinforcing the element of educational, psychological and sociological training for teachers in this type of school, since school-age adolescents pose a very great number of educational problems. Nevertheless, the question still remains whether or not teacher training should be provided simultaneously with special subject training.

Romania

New aspects of the education component of teacher training

Teacher training in Romania since 1945 has followed the same main trends of development as in the other socialist countries with training for all teachers being transferred from the secondary to tertiary level. The present organizational structure was introduced in the late fifties when a three-year course was introduced and the network of teacher training institutes was gradually increased. The desire to improve both the organization and content of education and to raise teaching standards found practical expression in the new forms of teacher training. The introduction of compulsory ten-year education, which likewise called for changes in the secondary school structure, was an important stimulus. The present system, which reflects these successive changes, includes:

(a) Teacher training schools, akin to secondary schools, where teachers for primary grades 1-4 are trained;

(b) Teacher training institutes for teachers of secondary grades 5-10, where the course lasts three years and involves the study of two main subjects;

(c) universities, where secondary school teachers are trained, and where the course lasts five years and involves the study of one main subject.

The supply of teachers has increased over the past few years with the result that the demand has been largely satisfied, and it is now possible to make the necessary adjustments to the system of training institutes. The *quantitative* emphasis in teacher training, which predominated after the Second World War, when education was expanding rapidly and teachers were scarce, is now giving place to a *qualitative* emphasis. This can be seen, for example, in the closer cooperation between the institutes and the universities, which takes various forms. If, for example, the institute is in a town where there is a university, joint departments are established for some subjects and joint research programs are prepared, while the universities assist the institutes by providing qualified staff, supervising research, and the like.

Unlike other socialist countries, in Romania the training of a form teacher is not seen as specific or distinct from the training of teachers with subject qualifications acquired at a training institute or university. In fact, research has shown that teachers with special qualifications in particular subjects can find excellent opportunities for using their knowledge in the primary grades and they are therefore given the chance to teach there. Notwithstanding these trends, the three kinds of teacher training establishments remain as described above.

The need to raise the standard of teacher training in education and individual subjects and of research work is apparent in every training institute. This is particularly true at the Bucharest and Cluj insitutes. The Cluj Teacher Training Institute is one of the largest, with a large number of day and correspondence students. It shares some departments with the university such as the education and psychology departments, and the departments of philosophy and political science. Research is very successfully carried on in the Institute, and joint research with scientific establishments in other regions is expanding, again in close cooperation with the university. Differences in the syllabuses for various subjects stem from the fact that in training institutes two special subjects are taken, whereas one special subject is studied in the universities. The syllabuses for education and socio-political subjects introduced in 1968 differ from one course to another, but only slightly. The education component is not given the same emphasis in the universities as in the training institutes.

While on school practice, students of the Cluj Teacher Training Institute attend school activities, take part in the work of children's and youth organizations and, finally, conduct a minimum of four lessons themselves, the last of which is assessed by a board of examiners. School practice is organized in groups of seven students. Prior to beginning their practice, the students study educational theory in the following sequence: in the third semester, they study the general theory of education, child psychology and educational psychology; side by side with their school practice in the fourth and fifth semesters they also study the methods of teaching their two main subjects. Theoretical lectures concentrate on methods of work in the fifth to eighth grades, but teaching methods for the primary and for the senior grades are also studied. Giving theoretical and practical training at the same time in this way enables the two aspects to be welded into an organic whole and has a beneficial effect on teaching practice.

Training for educational research work as an important part of teacher education

The standard of teacher education is being raised in a variety of ways. One effective method, mainly used in institutions of higher education, is to encourage student teachers to participate in educational research. As the activity of the "student research group" at Sighetul Marmatiei has shown, it is possible even for students at teacher training school to participate successfully in educational research work. The first experiment there is being carried out in connection with the teaching of psychology and education. "Research methods" and "the epistemic nature of the educational process" are two of the topics investigated. However, by itself, the material with which students become acquainted during their training is not enough for research purposes or for them to master research techniques; ways are therefore being sought of making good these deficiencies. One solution is the student "education and psychology groups" where those interested in serious educational research can train for research of a simple kind. School practice provides the students with abundant material for analysis and research within the group. Information on research methods and techniques is given in the groups. Such training in methods is frequently given in connection with the solving of practical educational problems.

These groups have a wide ranging work program which includes, for example, observation of certain phenomena connected with education or psychology and research into topics related to teaching in primary grades. The mental flexibility and agility of schoolchildren, among other things, are investigated by means of experiments. Solving such practical problems gives the students a more mature attitude to educational and psychological matters and develops in them the desire for a better understanding of the link between theory and practice and a desire to integrate the two in a more purposeful way. Some projects have involved sociometric research into the relations between pupils in the classroom situation as well as various practical topics concerning the Pioneer organization, such as the training of future Pioneer leaders and analysis and appraisal of the activity of the Pioneer organization in grades three and four. "The function of drills in developing the writing skills of six-year old pupils" showed that the process of instruction must take into account the psychology of that particular age-group. Another interesting project concerned the development of mathematical thinking in pupils of grade 4, in which the students confirmed the hypothesis that there exist certain basic stages in the solution of problems. In sum, the work of the education and psychology research group takes on a variety of forms and has a beneficial effect on teacher training. It widens their interest in educational problems and adds new depth to their attitude towards the teaching profession.

Union of Soviet Socialist Republics

New education syllabuses in teacher training institutes

The reform of teacher education at training institutes has involved changes in the syllabuses and curricula of the education course which were approved by the Ministry of Education of the USSR in 1970. The aim of the reform of the education and psychology component is to ensure that the student is in continuous contact, from beginning to end, with these subjects, and thus to establish conditions under which the student systematically and continually develops his teaching ability. This approach to teacher education creates favorable pre-conditions for the development of the teacher's personality. The education and psychology component in the new curricula is further strengthened by the introduction of examinations or course credit tests on all the corresponding subjects; these are also included in the State examination at the end of the course. The subjects of the psychology course are arranged in the present syllabus as follows:

Semester	Subject
I	Introduction to education, two hours per week
II	Child physiology and school hygiene, three hours per week
III	History of education, three hours per week
IV	General psychology, four hours per week
IV, V	School education, two hours per week
VII	Child and educational psychology, two hours per week
V, VI, VII	Teaching methods for individual subjects, two hours per week

Practical work is arranged in the following way in the new syllabus: at the end of the second year, four weeks in a Pioneer camp; in the third year, six weeks in a school; and in the fourth year, seven to eight weeks in a school. The main concern in this new arrangement, is that the student should be involved with the education of children, in both its academic and non-academic aspects, throughout his training.

A new subject, introduction to education, has been included in the syllabus. This is to be a sort of ABC of teaching which will acquaint the student with his future profession and with the fundamentals of education, the tasks and main features of communist education, and the school system in the USSR. Twenty hours of lectures and ten of seminars are allowed in the syllabus for this subject. After one year's experience of teaching this subject, two kinds of difficulties became apparent. The "introduction to education" course involves key questions of educational theory and to acquire a deeper understanding of them presupposes a basic knowledge of psychology and philosophy. These are highly abstract subjects which new students find hard to grasp. The other shortcoming is that there is, as yet, no textbook for the subject. On the basis of this experience it is proposed to make certain amendments to the syllabus of this subject, as it is considered that there are sound reasons for teaching it. The next subject taught in the third semester (three hours per week) is the history of education. The syllabus for this subject remains substantially unchanged. There are objections, however, to teaching "history of education" before "school education" since it is said that students learn systematically and fully about the concepts and content of education in general only on the basis of a study of school education.

Basic theoretical training in education is completed by the "school education" course for which two hours per week are allotted in the fourth and fifth semesters. The structure of this course is different from that found in the textbooks used in training institutes and in the training of teachers at universities in the USSR. Consideration was given in drawing up the syllabus to the latest version of a textbook on education drafted by the USSR Academy of Pedagogical Sciences, and the intention was also to use the latest scientific knowledge in order to give a better theoretical foundation to this subject. As a result, more attention has been paid to the psychological side of the educational process. The new structure enables the students to learn what they need to know about the theory of teaching well before they start school practice. The "school education" course is divided into three parts: the theory of non-academic education (with theoretical introductory sections on ideological, moral, aesthetic and physical education), education through work, educational work in youth and Pioneer organizations and in the family, the theory of teaching (where the structure is practically the same as in the usual textbooks) and the theory of school administration. Analyses of this experience, which have already started to appear in the educational press, will make it possible to evaluate the present approach to the education and psychology course in an objective way and to modify it if necessary.

The 1970-1971 academic year saw the introduction in training institutes of the new psychology syllabuses approved in 1970. The combination and sequence of subjects in the psychology and education syllabus differs substantially from that in the old syllabus. The new sequence is based on the fact that first-year students, as experience has shown, have considerable difficulty in mastering complex psychological concepts and problems and for this reason general psychology has been left until the fourth semester. Developmental and educational psychology complete the education and psychology course which used to end with school education and teaching methods for individual subjects. Dividing the psychology course into two parts, general psychology and developmental and educational psychology, is thought to be a good idea precisely because of the importance of a more complete knowledge of children's mental development and of the psychological pattern followed in their education.

More important still are the changes in the content of the psychology course, in which new theoretical and practical knowledge acquired in recent years, particularly in the Soviet Union, is included. The new general psychology syllabus is significantly different from the previous one, particularly in the following three respects: (1) whereas the previous syllabus and the psychology textbooks put the problem of the personality at the end, the new syllabus is based on the personality and on the conditions and natural laws of its development within the process of activity and within the system of social relationships; (2) whereas the previous syllabus was mainly limited in its understanding of the personality to individual psychological features, the new syllabus includes a study of the problems of inter-personal relationships in the community as the sources of human action; (3) a new feature of the syllabus is the consistent application of the principle of the unity of consciousness and activity, according to which all psychological phenomena, processes and states are seen as a synthesis of certain phenomena, modes and characteristics of psychological and practical activity. In harmony with this new approach, a group of authors, led by Professor Petrovsky, has prepared a new general psychology textbook.

The second part of the psychology course, developmental and educational psychology, examines the psychological characteristics of various age groups. The purpose of the course of educational psychology is to acquaint students with the child's psychological development process and with the most important characteristics of the pupil's mentality, activity and behavior at various stages in his development, which students must learn to take into account in the teaching process. The principal new feature in the approach to developmental and educational psychology is the emphasis on the predominant role of activity, learning and upbringing in the child's mental development and in the development of the personality.

The reorganization of training for primary teachers

The reorganization of the training of teachers for primary schools, where a system of "form masters" teaching all subjects operates, was undertaken in connection with the reform of the organization and content of education. This reform involved the structural reorganization of the ten-year school (1970). The primary stage was shortened to three years, and from the fourth grade onwards the system of teaching by subjects was introduced. Important changes in content and methods were also introduced after several years of research. This new situation is naturally reflected in the training given to primary teachers as well.

There are two ways in which primary teachers are trained in the Soviet Union. Students either spend four years in secondary level teacher training schools when they leave the eighth grade (which is the case of the overwhelming majority of primary teachers) or follow a four year course in training institutes which they enter on completing their secondary education. Higher level teacher training for primary grades began in the Soviet Union in 1957 when the first university "faculties of education" were established, offering a four-year course. Fewer teachers receive this complete, full-time, higher level training, but the extramural or evening form of study is very widespread and is open to those with secondary education. Transfer to training of teachers for primary classes at the level of higher education is taking place gradually. It is proposed to establish a new kind of faculty with a three year course.

The new curriculum also pays more attention to theoretical training. The standard of the natural science course has been raised and the curriculum provides 240 hours for special courses and seminars which may be used for acquainting students with the specific work of the fourth grade. One progressive element of the new curriculum is the introduction of elective lectures and seminars up to a total of 240 hours, and also the fact that 150 hours are set aside for subjects associated with the specific features of the various Republics or of individual teacher training institutes. Students have the opportunity to specialize in teaching either the native language, mathematics or natural history in the fourth grade, due consideration being given to the actual demand for teachers of these subjects. The content of the psychology and education course is the same as for teachers of senior grades and is based on a fundamental knowledge of child anatomy, physiology and school hygiene. The volume of material to be studied, the large number of subjects and the great amount of written course work makes the training of primary school teachers complex and demanding. The way it is planned at present scarcely makes it possible to reduce this training to three years as is proposed for the future.

Introduction to the scientific organization of educational work

A new optional subject, the scientific organization of educational work, has been included in the new training institute curriculum. Over the last few years, the Soviet Union has paid a great deal of attention to the question of making fuller use of scientific management of school work. The new subject represents a further contribution to the enrichment and modernization of teacher education in the Soviet Union, although some educators question the need for it, claiming that much of it can be included under the heading of subject teaching. The aim of the course is to systematically improve the organization of the educational work of the school, to put it on a modern, scientific basis and match it to the requirements of society. It is clear that not only the content but also the organization and methods of education are becoming more and more complex. In the new view of the school, the position and role of the teacher are also changing. His significance as a source of information is decreasing while his role as organizer of the educational process increases. In addition to his specialist background, the teacher must also have organizational knowledge and ability for this latter role. Broadly speaking, the aims and content of the course may be described as follows: the improvement of the use of educational staff and of individual teachers; the establishment of favorable psychological, physiological, material, technical, hygenic and aesthetic conditions for work; a friendly and creative atmosphere, and so forth. These aims can be achieved by greater economy and a more rational use of time, energy and resources and also by establishing the most favorable working conditions.

Teachers have responded favorably to the attempt to apply scientific management to education. It seems right therefore to introduce this subject into the training institutes, although for the time being it will be an optional subject. It aims to acquaint student teachers with the basic problems of work organization, to show them ways and means of raising the efficiency of educational work, to acquaint them with research methods in this field and show them how to draw up for themselves a rational daily time-table. The content of the course is still crystallizing, and the syllabuses of different institutes differ as regards the subjects included and their sequence and also the number of hours allotted to them. The syllabus for this course in the State Foreign Language Teacher Training Institute at Pyatigorsk contains the following subjects:

1. Scientific management and management theory; history, development and present status of scientific management
2. The work process and its organization
3. The scientific organization of educational work and its main trends
4. Principles of the organization of educational work
5. Forms and methods of scientific management and the scientific organization of educational work
6. The scientific organization of instruction
7. The scientific organization of the educational process
8. Establishment of the optimum conditions for work and leisure
9. Development and applications

A comparison of the subjects offered in the syllabuses of different institutes shows that although they follow the same general pattern, there is a distinct difference as far as individual subjects, and their sequence and content are concerned. In some institutes, the practice is for the separate subjects of the course to be taught by specialists from many departments (political economy, psychology, education), as a result of its interdisciplinary nature.

Vocational guidance--a new subject in the education course of training institutes

As part of the reform of the education and psychology component of training, a new optional subject, vocational guidance, was introduced in the 1970-1971 academic year. Teachers play a decisive part in forming and developing the interests of their pupils and experience has shown that they need to be trained for this work. The aim of introducing the vocational guidance course is to give teachers a more thorough training so that they can offer practical help to children in the choice of a job which suits their individual interests and abilities and which also fits in with the requirements of the economy. The educational psychological side of this part of a student's training must be linked with social and economic knowledge, but the course does not repeat those aspects which are already covered in the education and psychology course. While studying political economy, the students become acquainted with the main problems of public education which they need to know for their vocational guidance work. Some topics in this course which are necessary for a systematic presentation of the material are not taught by the lecturers in education and psychology but by lecturers from the political economy and philosophy departments. The fact that specialists from several departments cooperate in teaching one course is a progressive feature and ensures a high standard of instruction.

The vocational guidance syllabus covers 36 hours, 4 to 6 of which are commended for practicals and seminars. The first topic is an introduction which describes the aim and objectives of vocational guidance as a system of psychological, educational and medical measures for giving help in the correct choice of an occupation. The role of general schools, labor schools and polytechnical schools in educating children to make a correct vocational choice and the decisive significance of communist education in training school children for life and for the deliberate choice of career, are also covered. The second topic looks at the main trends in the development of the national economy in the USSR and reviews the pattern of employment and the changes which have taken place in it, the human situation in circumstances of constant technological improvement, the economy of the region for which the future teachers are being trained, and other topics related to the national economy.

More teaching periods are allotted to the third topic in the syllabus which concerns the theory of vocational guidance. Its first part deals with occupations, their classification, the specific characteristics of each individual occupation, and the demands which each makes. The second part covers the importance of education in the right choice of a career and the psychological aspect thereof, the subjective prerequisites for various jobs and related subjects. The fourth topic involves an examination of the vocational guidance system and its principal elements: vocational training, vocational counselling, vocational selection and adaptation. It also provides information about the various types of training for young specialists in educational institutions. The syllabus pays great attention to the educational aspect of guiding school children toward the correct choice of occupation, to vocational guidance methods for school children of the middle and senior age groups, to the various forms of out-of-school work and to the tasks of the Pioneer Organization and the Young Communist League. This part also deals with the principal forms and methods of work with parents in tackling this problem. In the sixth and final part, the organization of vocational guidance in the school, town, district and region, the tasks of public organizations in its development and the problems of training teachers for vocational guidance work are examined.

These problems will be of importance for teacher training for a long time to come, although it would seem realistic in the future to have a specially trained psychologist on the staff of every large school to deal with the various problems connected with choice of a career. Help from the teacher will always be necessary, however, and studying this subject will make him better qualified to give such help.

Innovations In Indian Teacher Education

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Twenty-five years have passed since India attained her independence, and the country is preparing herself for the celebration of the Silver Jubilee of this memorable event. With the attainment of independence the demand for education increased and the number of educational institutions has expanded three-fold and students on roll even faster. The number of teachers and teacher training institutions has multiplied in the same proportion. But there is mounting dissatisfaction with the situation. It is keenly felt that the teachers have to be prepared better for meeting the needs of a democratic nation and the challenges of new technology and the explosion of knowledge. There has been a universal demand for reforming education both in private and public sectors, by teachers and the taught, by educationists as well as by lay persons. The Government of India appointed three important commissions on education and for examining specific problems of teacher education, special committees were set up, seminars were organized, and working groups held workshops at different levels. In fact, the decade 1961-71 hummed with the observations of such joint collaborations whose results are apparent today. Prior to 1961, "uniformity" dominated the entire field of teacher education, freedom was denied, and experimentation was unknown. Today, there is a demand for change, experimentation is not much questioned, and teacher educators are following a trial and error method in search of solutions to vexing problems in teacher education. Innovations are on the anvil, and it is very difficult to keep a record of all of them and to enumerate them for a vast country like India, but a few salient practices are discussed below.

Administration, Coordination and Planning

Prior to 1961, teacher education had no independent status at the national or state government level. Files on teacher education were tossed about, were not attended to, and were often put in cold storage. While other branches of education knew whom to approach, teacher education was an orphan. Conditions have now considerably changed and teacher education at the center is the responsibility of three different agencies: the Planning Commission, the University Grants Commission (UGC), and the National Council of Educational Research and Training (NCERT).

Teacher education had no independent status in the first three plans in the Education Budget and funds were allotted from educational allocations. The situation has improved in the Fourth Plan (1969-74) and a sum of eight crores of rupees (80 million) has been ear-marked for the improvement of secondary teacher education alone. This money has been assigned to the UGC, on the recommendation of the Education Commission, 1964-66. The latter Commission desired that teacher education should be brought within the direct stream of the academic life of the university and that the UGC should assume responsibility for coordinating and maintaining standards in teacher education as in other branches of higher education. This was accepted by the Government of India, and the Standing Committee on Teacher Education and Research was set up in 1966. This Committee advises the UGC on coordination and improvement of standards of teacher education at all levels, and the allocation of grants to teachers colleges and departments of education in the universities. During its short period of existence, the Committee has done yeoman service for teacher education; financial aid is now available to secondary teachers colleges for their qualitative improvement, development of research, and expansion of physical facilities.

The NCERT was established in 1961. Its main objectives are: (1) To promote, organize and foster research in all branches of education; (2) to disseminate knowledge of improved educational techniques and practices in the school system; and (3) to act as a clearinghouse and with this object to undertake special studies, surveys and investigations. The Council has also a training program to devise techniques of training and upgrading professional leadership. Problems of methods and organization are subjected to continuous re-examination and evaluation, so that professional training is kept closely in line with changing educational needs. The National Institute of Education, which is a part of the NCERT, provides facilities for professional training and research at advanced levels to teacher educators and educational administrators from all the states of the union, and thus makes its contribution to building up cadres of educational workers which a national system of education so urgently requires. Quite recently, the NCERT set up a field unit in each state as a liaison office between the center and the state. It examines what the center can do in relation to specific educational problems of the state, and coordinates the program of the in-service education of teachers and teacher educators of the state.

The states have also risen to the occasion. The post of Deputy Director of Teacher Education has been created in eight major states and others are likely to follow suit. State Boards of Teacher Education have been set up in six states. They prescribe standards for training institutions and prepare plans for the immediate and long term development of teacher education, both qualitative and quantitative.

Institutional Organization

Throughout the world, there is a move at present to organize large institutions, comprehensive colleges, and to start multi-faculty educational establishments. The same trend is visible in India too. For example, the need to give an orientation program in classroom instruction to fresh teachers of engineering colleges and polytechnics is now appreciated. With this objective in view, departments of education have been established in three Indian institutes of engineering and four regional colleges of engineering. Another move is to set up institutions, each imparting professional experience in a special field. In 1958, the Central Institute of English, Hyderabad, was established with the objective of improving the teaching of English both through the organization of research and the training of teachers in suitable techniques of teaching English as a second language. In addition to this Institute, as many as eleven state institutes of English have been set up in cooperation with the British Council. The importance of training Hindi teachers has also been realized. The Government of India has started the Central Institute of Hindi at Agra for training Hindi teachers in non-Hindi areas. In addition, twenty-six Hindi training institutes have been established in non-Hindi areas for teachers of Hindi at a lower level.

Two important institutions, *viz.*, the State Institute of Education (SIE) and the State Institute of Science Education (SISE) have been set up in every state. The main functions of the SIE are to provide in-service education to teacher educators and the inspecting staff connected with elementary education and to undertake studies in all problems of education, research in methods of teaching and curriculum development in elementary schools. The SISE functions mainly as the center of research for science curriculum development and for in-service training of science teachers and teacher educators, improvement of instructional aids, and the translation and dissemination of science textbooks, guidebooks and related literature in regional languages. During the Fourth Plan, these institutes will provide an in-service education program of two months duration to about 1,350 science method masters of teacher training institutes. The Indian Ministry of Education is contemplating setting up a Staff College of Educational Administration during the Fifth Plan to provide pre-service and in-service training for educational administrators for the entire country.

Structural Pattern of Courses and Curricular Changes

There is a growing realization in the country that the candidates who join different types of training programs do not have adequate knowledge in academic subjects. To remove this deficiency, the scope of the elementary teacher training program has been widened by including a well-balanced course in general education, and six institutions are experimenting with a four-year degree course in education on the American pattern.

It has also been considered necessary to widen the scope of student teaching. It has been appreciated that this program cannot be confined to mere classroom situations but should include participation in all phases of the teacher's responsibilities, in the classroom, in the total school program and in the community. With this objective in view, the regional colleges of education have introduced an internship program of six weeks duration during which the pupil teachers are attached to some related schools. A similar practice known as Block Practice Teaching has been adopted by 48.7 per cent of the secondary teachers colleges.[1] This innovation is, however, of a shorter duration and is practiced in rural areas. The details vary from institution to institution but all of them aim at providing the experience of working in actual school situations.

The need for an inter-disciplinary approach at the masters' level has also been recognized. The masters course in education of Allahabad University provides a full paper from an inter-disciplinary seminar. While examining the outline of this innovation, the UGC's Standing Committee on Teacher Education and Research suggested "that the content of the Seminar should be spelt out and that it should reflect a concern for the study of educational problems from a broad spectrum of the concerned social sciences.[2] The Meerut University has instituted a masters course in education of fourteen months duration for which no previous training is required for admission and any person with a first or second class degree in any subject is eligible. The core curriculum includes the following courses: (1) Quantitative methods in Behavioral Sciences, (2) Research Techniques, (3) Logic and Philosophy of Social Sciences, (4) Problems of Human Development with special reference to the contemporary Indian Scene, and (5) Developing a Research Project. Increasingly, the subject of education as an academic discipline is no longer confined to school teachers or teacher educators. Educational administrators and teachers and scholars from other fields are also interested in the study due to certain political factors which are active in the developing countries, for nothing can remain purely academic when everything becomes political in development planning. Furthermore, the interest shown by other social sciences in the educational process is mainly a result of the part played by educational processes in transforming developing countries.

Another innovation is to bring the trainees into close contact with the rural community. In fact, this is one of the main objectives of the Basic Education Program. For example, the PGBT College, Orthand, organizes visits to five village schools during the year to enable its student teachers to understand the problems faced by village teachers and to understand through them the rural community. A visit to the college by neighborhood schools of rural areas is an innovation recently introduced by the M.B. College of Education, Vallabh Vidyanagar. For such visitors, the institution organizes exhibitions, film shows, demonstration lessons, and special discussions. This practice at times encourages a few alumni to work for village schools during vacations in the spirit of the peace corps volunteers.[3] The CRISE of Baroda University also lays a great emphasis on rural communities where student teachers interact directly with rural citizens, leaders, school teachers and pupils.[4]

Instructional Approach

Prior to independence, there were hardly any books on education written by Indian authors. This drawback has now been considerably removed and a number of Indian authors are in the field, but book production is not yet fully extensive and many books are substandard. The Government of India, therefore, is subsidizing textbook production very liberally. While the NCERT has its own program at the national level, every state has its own publication unit for the production and translation of standard books into the regional language.

There is also a great effort to supplement the traditional lecture method by other methods involving tutorials, individual assignments, seminars, symposia, group discussions, supervised self-study, team-teaching and programmed learning. As an improvement over the procedure of writing tutorials, the teacher educators of M.B. College of Education, Vidyanagar, prefer to discuss the details of various topics among themselves in the presence of the students who are later divided into groups to help them think out the subtopics emanating from the Faculty discussions. The C.I.E., Delhi, has developed a new approach in the teaching of psychology to the B.Ed. class in which an annotated bibliography is provided to students beforehand and they are divided into small groups. The instructors meet each group and help in the procedure of observation, interviews, preparation of check-lists, and role-playing. With the introduction of the content courses at the B.Ed. level, it has been found necessary to set up science laboratories in teachers colleges. A lead in this direction has been given by the state of Rajasthan, as its eighteen teacher colleges have introduced this innovation. It is gratifying to note that the UNICEF has launched a program of providing science equipment free of cost to every teachers college of this country.

Education for the Cooperative Endeavor

There is a growing consciousness in the country that teacher training institutions should manage their affairs on a cooperative basis. For instance, the students of a number of colleges run their halls of residence and canteens themselves. The Khalsa College of Education, Gursar Sadhar, expects its students to manage a community farm and to produce vegetables and wheat for their daily consumption. The college provides land and irrigation facilities and the students till and irrigate the land on a cooperative basis. A novel experiment for bringing the teachers and the taught into very close contact is the "Open Air Session" of Teachers College, Vidya Bhawan, Udaipur. During this session, usually a week long, the entire college community lives together in a camp in natural surroundings away from the busy life of the city. On arrival at the camp site, the students and staff involve themselves cooperatively in cleaning the area, setting up the tents and acquainting themselves with the area. The daily program starts with the rising sun at the common prayer ground, where devotional songs are sung. The morning and afternoon sessions are devoted to studies, surveys, field-work and group discussions and in the evening the whole group meets on a hill and observes the setting sun in silence. There are campfires or other entertainment programs after dinner. The campers enjoy common breakfast, lunch, tea and dinner and they help in the preparation and serving of meals as well as the maintenance of the camp. The outcome of this unusual program is difficult to assess, but a few results like curriculum enrichment, emotional development and social consciousness can be observed through the behavioral changes of the students and the staff.

In-service Education

Fifty per cent of the secondary teachers colleges have either a department or a unit of extension services. The major innovations of the extension centers, which are undertaken in collaboration with the NIE, are financial assistance to schools for their experimental projects, preparation of instructional material in the shape of teaching units and illustrative aids by school teachers under the guidance of teacher educators, and a seminar-reading program for teachers and headmasters. A few extension centers have their outposts in selected schools for their intensive activity. Each outpost has ten to fifteen school complexes. Another unique feature of these extension centers is their close association with Headmasters' Forums, which have been established at the district level and which discuss the day-to-day problems of teachers and headmasters. A number of teachers colleges are organizing seminars for institutional planning of individual schools. A few Boards of Higher Secondary Education also conduct in-service programs for secondary teachers. For example, the Rajasthan Secondary Education Board runs a number of courses for paper-setters, subject teachers and textbook writers.

The need for preparing college teachers is also receiving due attention in the country. It is recognized that college teachers are interested primarily in their subjects and only secondarily in how to teach them. Pioneering work in orienting college teachers to new methods of teaching has been done by several colleges and the Punjab Government has made it obligatory for every new lecturer to attend an orientation program of five weeks duration. The UGC is now encouraging every university to run a summer course of four to six weeks for new college teachers by shouldering the entire financial burden. It also organizes summer programs on content courses which are attended by a large number of college and school teachers. Their motto is: "No person should decide to teach unless he is resolved to learn, for a real teacher is a student all his life."

Research and Education

Research plays a very significant role in the process of innovation, since it is the first step for the generation of new ideas and is the main basis for creative thinking. The UGC awards senior research fellowships to college teachers and junior fellowships to students for full-time research work. It also awards research grants and travel grants to teachers and colleges for their individual or cooperative research projects. Quite recently, the Commission has adopted a policy of setting up centers for advanced study in different branches of knowledge to encourage the "pursuit of excellence" and to accelerate the attainment of international standards through research. Until 1961 there was no central agency in the country responsible for the coordination and promotion of educational research. The NCERT is carrying out this responsibility now and during the last six years it undertook as many as fifteen major projects in fundamental and applied areas of educational research. Under the international cooperative research program of the U.S. Office of Education, the Council completed nine major projects. It also gives grants-in-aid to teachers colleges and university departments of education for conducting their own research programs[6] as do the SIEs on a small scale in individual states. Another significant development is the involvement of the Indian Association of Teacher Educators (IATE) in educational research. It has a standing committee of educational research, and has conducted a few educational surveys on behalf of the NCERT and the

Education Commission, 1964-66. It also invites selected successful doctoral candidates to present outlines of their work at its annual session.

Professional Organizations

Professional organizations at the regional, national and international levels have contributed a good deal to bringing the teacher educators together and infusing them with new ideas. One of the sessions of the annual conference of IATE is referred to as "Around the Teacher Training Institutions." *Teacher Education,* the quarterly publication of the Association, includes accounts of innovative practices in teacher education. The international conferences organized by ICET, UNESCO and WCOTP are essentially in-service programs for educational leaders and innovative ideas filter down through them to teacher educators throughout the country.

Quite recently all seven of the teacher training institutions of the city of Udaipur organized a "Teacher Education Complex" for the city on the lines suggested by the Education Commission, 1964-66. The main objectives of the complex are: (1) to pool all available resources in men and material for their maximum utilization for the improvement of teacher education institutions, (2) to provide an organ to the teacher educators for their professional growth, (3) to coordinate activities of the associated institutions for pre-service and in-service programs, (4) to support experimentation and research in education in general and teacher education in particular, and (5) to improve the standards of teacher education *vis-a-vis* school education.

Conclusion

To some of my friends from other lands, a number of practices presented in this paper may not seem innovative, as they may have been experimenting with them for some time. But tender saplings transplanted from one soil to another perhaps get a new shape and bring forth unexpected results in a new environment. Whatever the specific form of the innovation, there is a general quest for the creating of a new and better social order throughout the globe. Emphasizing this aspect of education, the Indian Education Commission has remarked, "If this 'change on a grand scale' has to be achieved without violent revolution, there is one instrument and one instrument only that can be used: education."[7] The task of education is manifold. One of its major tasks in a modern society is to keep itself in touch with advancement in social, cultural, and political fields at all levels. In a modern society, knowledge inevitably ceases to be something to be received passively; it it something to be creatively discovered. If this principle is rightly understood, it would mean a revolution in the traditional approach, which tends to neglect the creative and critical faculties. In India, as in other countries where similar conditions prevail, this requires among other things, a new approach to the objectives and methods of education and change in the professional preparation of teachers.

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Educational Reform In Spain:
Innovative Responses In Teacher Training At One University

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The Spanish educational system is extremely old and, although there have been partial reforms, particularly in the last thirty years, there is now the need for a profound reform. The Minister of Education and Science published in February, 1969, a document, *Education in Spain: Bases for an Educational Policy*, which was intended to lead, through consultation within Spanish society, to a new educational plan. About one year later, in August, 1970, the General Educational and Financial Law for the Reform was approved and a major advance was made in dealing with Spain's educational problems. The objectives of this new Law are quite clear and include, among others, the following:

(1) It is not enough to *teach* (to transmit knowledge); it is necessary to educate (to develop mental and moral attitudes).
(2) Education must be *active* (the student must work in order to learn).
(3) The school must be a school of *convivencia* ("living together," group organization and communication) and of *cooperation*.
(4) The curriculum and the educational process must be *coherent* and better adapted to life.

This reform is based, in my opinion, on three factors: educational research; experiments and dissemination; and the training and upgrading of the professional teachers. Closely associated with all three factors are the Institutes of the Science of Education (ISE's) which have been established in every university to provide services for the entire educational system, in keeping with the leadership role of the university in the field of education. The ISE's, created in July, 1969, are university institutes, directly integrated into each university, and charged with responsibility for teacher education, which is beginning to include education at all levels and in-service education for practicing teachers and educational administrators, as well as the conduct and promotion of educational research and the provision of technical advice to the university itself and other units in the educational system. A National Center of Research for Educational Development has been created to ensure coordination at the highest level of the research efforts of each ISE.

ISE Courses and Seminars for Teachers at all Levels

Within the new educational structure, outlined by the new Law, are a number of courses for teachers of general basic education (children from 6 to 13 years of age, approximately). One portion of the training, which varies from 60 to 100 hours at the different ISE's, is devoted to pedagogical matters including curriculum, evaluation, school organization, educational sociology and concrete problems in each area. Courses in various subjects are provided for teachers who will be teaching the sixth course and above in the general basic education. About 300 hours are devoted to the study of the subject area which may be philology (Spanish language and modern foreign language), the natural sciences and mathematics, the social sciences, religious education, physical training, aesthetic education or pre-technical training. Included with the study of the subject area, and requiring another 100 hours, is the development of detailed curricula in each field. In carrying out the latter, a number of units of a pedagogical nature are covered including characteristics of the child from 11 to 13 years old, techniques of teaching to individuals and small groups, group dynamics, "education for the responsible use of freedom," techniques of study, the direction of learning by the teacher, team teaching, new approaches to school organization, evaluation, curriculum development, educational technology and teaching materials. A course in special education is also provided for this level for teachers of speech and hearing therapy. The course requires 400 hours and includes theoretical study of the appropriate medical, pedagogical, psychological, sociological and educational topics. A second phase is devoted to practical work carried out in a special education center near the ISE.

The education of teachers for schools which grant the *bachillerato* (students from 14 to 17 years old, approximately) is, according to the new Law, divided into two cycles, each requiring 150 hours. The first is of a theoretical nature and consists of the study of the principles, objectives and problems of education in its psychological, sociological and historical aspects; technology and systems of education and innovation; and special *didacticas* or teaching methods. The second cycle, the practical cycle, consists of teaching practice in schools selected by the ISE. In the first cycle, about one-fourth of the total time is devoted to the course "Introduction to Education," which is comprised of elements of sociology, philosophy, history, economics, biology, anthropology, psychology (the psychology of learning), the science of education, educational research and planning, the future of education and comparative education.

About one-half of the 150 hours of the first cycle are allocated to the new educational systems, technology and innovations. The ISE of the University of Santiago, while it does not have closed circuit television, utilizes in one seminar the concepts developed around the technique of micro-teaching. One or two brief presentations are provided for the students, in addition to assigned reading, on the "Principles of Micro-Teaching and General Pedagogical Strategies and Skills Involved," and "The Micro-Teaching Plan and Techniques of Evaluation." Then a more detailed, although still brief, lecture is given on reinforcement techniques in relation to desired verbal and non-verbal gestures and expressions. The work of Charles Golloway on non-verbal communication is included as a part of the seminar. Then each competency is demonstrated by each prospective teacher, using a group of three boys and three girls as pupils and following the pattern of five-minute demonstrations, evaluation and feedback, repetition of the skill, and more evaluation and feedback. This pattern of reading, lectures, and practice is continued with all the various competencies: asking questions, leading discussions, and so on. Another element of the course at the Santiago ISE is the use of "interaction analysis," as it has been developed by Ned Flanders and Edmund Amidon. In this case, a group of eight to ten pupils, in one of the advanced classes for the *Bachillerato*, are observed by the prospective teachers as a volunteer supervising teacher instructs the class. The ISE students analyze the educational process at three-second intervals according to a matrix of ten categories of interaction occuring during the teaching-learning process. A tape-recorder records the verbal interaction which occurs during the fifteen-minute observation period, and other practicing teachers and the ISE professors take note of the non-verbal behavior for the ensuing discussion with the prospective teachers. Finally, the seminar also utilizes the techniques of simulation as presented in the work of Donald Cruickshank.

Another major seminar of the segment on new educational approaches requires 20 to 25 hours and involves the study of group dynamics. The perceptions, communication, and mutual relations, all of which may be formal and informal, rational and affective, are analyzed as they occur in small groups. The students form their own groups for purposes of self-analysis and, with the help of a trainer, begin to better understand the use of new pedagogical methods which require, for their success, changes in interpersonal behavior. A third seminar, requiring five sessions, explores the idea and techniques of programmed education. The first session deals with the pedagogical principles involved, behavioral theory, learning theory, theories of the personality, and examples of linear and more ramified programs. The second session is devoted to cognitive, technical and attitudinal objectives, and the third focuses on the operations involved in developing a program, including the examination of pupil motivation and teaching methods. In the fourth session, the students actually develop, collectively, a model program, including the instructions, supplementary notes, and the compilation of the units of information. The seminar ends with an examination of the specific techniques involved in developing and using a variety of programs including evaluation and experimental approaches.

The final two major seminars are devoted to the sociology of education and personalized instruction. In the former, the students analyze their previous educational experiences in social terms after examining some theories of social analysis and observation. This seminar focuses on developmental theory and includes two in-depth interviews, one with a pupil and one with a practicing teacher. Personalized education is intended as a synthesis of this entire portion of the training during which the student considers the socialization process involved in education in relation to the goal, as expressed by Garcia Hoz, of the responsible use of freedom. Other brief seminars are devoted to school organization and evaluation.

The final portion of the first cycle of pre-service education is allocated about one-fourth of the time and involves didactics. Among the activities included here are the selection of the content and integration of the curriculum, determination of the objectives for each subject at the *Bachillerato* level, careful study of the actual activities involved in curriculum development, critical examinations of available textbooks and other teaching materials, critical study of the evaluation processes, and theoretical sessions devoted to the most recent developments in each discipline.

The activities included in the second cycle of 150 hours may be easily summarized:
(1) Seminars on teaching methods in the different subjects (5-10%)
(2) Practice teaching at two different levels (45-60%)
    a. Observation of a class taught by a supervising teacher
    b. Actual teaching
(3) Evaluation activities (5-10%)
(4) Other activities (5-10%)

It may be useful to include additional practical information to clarify the nature of the program outlined above. The number of students in each seminar varies from ten, for micro-teaching, to sixteen, for group dynamics, to twenty-five in the remainder. In general, the instruction is based on a brief lecture, no longer than 20 minutes, and the examination of technical notes in small groups which then come together for common discussion. Films and other audio-visual materials are used as well as various small-group techniques such as brainstorming, round-table discussions, peer teaching and so on. On some occasions, sessions are held outside the ISE in the schools.

In this brief paper, I have attempted to provide a glimpse of the initial stages of educational reform in Spain, illustrated by examples of innovative activity in the teacher education program of the University of Santiago. Other ISEs at other universities are also currently seizing the initiative provided by the New Education Law to develop new approaches to pre-service and in-service teacher training. Profound changes have long been needed in Spanish education and while the current reform is just getting underway, there is now, at least, nearly universal agreement that the reform is really necessary in the field of education, and in particular in teacher education.

V

SOCIAL REALITIES: THE CONTEXT OF INNOVATIVE TEACHER EDUCATION

The Challenge Of Innovation In Teacher Education In Thailand

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The educational system in Thailand, in common with many other developing countries, has a dual task if it is to contribute significantly both to the balanced development of the country and to the promotion of equality of educational, vocational, and social opportunity. It must supply the ideas, attitudes, skills, and knowledge which will help rural populations to accelerate the process of rural improvement and transformation; it must also provide the required educational background for the relatively few who will obtain employment in the modern and rapidly changing technological sector. The urban environment, with its countless cars and buses, factories and supermarkets, newspapers and magazines, pollution and conglomerates, is obviously quite different from the traditional rural sector. In the rural area, subsistence agriculture is a way of life, roads are poor and few, electricity is often non-existent, books and newspapers are rare, and the traditional, isolated social structure often acts as a brake on rapid change. Thus, one of the main problems we face is to decide what degree of emphasis should be directed to education related to growing industrialization and what degree to rural transformation. Fortunately, teachers and teacher educators, the bulk of whom live in the modern sector of the economy, are paying increasing attention to the educational and developmental needs of rural areas. The realization is growing that the vast majority of the population live in rural areas and that there can be little effective *national* development without rapid *rural* development.

In an average village in Thailand at the present time there might be fifty or more houses scattered over a wide geographic area. Very likely, there will be a temple and a school. In the past, the temple served also as a school, with boys learning to read and write from the monks. Many of the girls learned literacy skills at home. Traditional vocational skills such as farming, carpentry, house-building, and weaving were passed on from elders to youth through very informal methods of apprenticeship and on-the-job training. The temple and other traditional non-formal educational institutions served effectively in maintaining the stability of the society, and in passing on from one generation to the next the slowly changing knowledge, experience, and civilization of the past. The formal elementary school eventually was introduced into the village as an institution different and distinct from the temple. At first its functions were very limited: to provide basic literacy training, and to present appropriate academic content needed by the few who proceeded beyond the village schools to more advanced education. Gradually, more and more subjects were added to the curriculum to provide both a more comprehensive and better balanced academic background for children who hoped to cope successfully with higher education in the modern sector, and also to teach subjects that had relevance for children who were likely to spend their future lives in an agricultural setting.

In the early 1950's, it became increasingly apparent that the rural school was not effectively serving the community in which it was situated, and that the teacher, despite the fact he was usually the only educated person in the community, had not been provided with the attitudes, skills, and knowledge necessary for helping his rural community to make much progress in the long and difficult process of development. The rural school was perceived by the village generally as a place where a large number of strange subjects was taught, and where the only real advantage was the fact that by opening the door to further education some of the brightest children were allowed to break into higher salaried jobs available in the modern sector. Though a very large proportion of government effort and expenditure in rural areas was devoted to elementary education, the teacher was given little if any training in community development. It was realized, therefore, that if the teacher was to become more than a classroom instructor, if he was to become an effective agent of change and a catalyst in community improvement, his training would have to be altered and improved. His new role would encompass wider responsibilities; his classroom would in fact be the entire community, and his students would cover all age groups. The preparation of such a teacher I consider to be the greatest challenge for innovation in teacher education.

We started in earnest to try to improve the system of teacher education for rural teachers back in 1956 with the start of the Thailand UNESCO Rural Teacher Education Project (TURTEP). Though the scope of the scheme has expanded dramatically, and many practical methods of implementing it worked out through both trial and error and continuing research, the objectives today remain very much the same as they were when the project actually started:

> The purpose of the Rural Teacher Education Project is...the training of rural school teachers who will be competent to carry out the double role of educator and community leader. The training provided will combine the techniques of fundamental education and the method of teaching children, and it should enable teacher to relate their teaching of the subjects to the concerns and needs of the school children at different ages. Furthermore, they (the teachers) should acquire the techniques of guiding adults and youth who are out of school in the improvement of their community and of their living standards, health, citizenships, making a living, housing, etc. In this way, the school under them will serve as an educational center and the community center as well.

It is, however, one thing to formulate clearly stated objectives, and quite another to work out in detail how these objectives can in fact be implemented, especially when given other sometimes conflicting objectives.

Although the majority of the population live in rural areas, the minority living in the urban sector are generally more vocal and more demanding. This minority, to satisfy their educational needs and demands, require large numbers of schools and teachers. Even in the rural sector, a majority of the people hold ambitions for their children to get employment in the towns, even though such expectations may be highly unrealistic. So what kind of teacher should we produce? Is a two-track program needed–one for rural education, the other for urban education? We finally decided to design a teacher training curriculum and program of study which would concentrate mainly on the needs of the rural area but which, at the same time, would also meet the needs of future urban teachers. I might add that we have not been totally successful, but we have made what we consider to be a good beginning.

It was not long before we reached two basic conclusions. First, the curriculum in the teachers colleges was already over-crowded and made only limited provision for work and study in community development. At the Lower Certificate Level, 70% of the curriculum was devoted to general education and pedagogy, and only 30% remained to treat all elective subjects. Obviously, there was little, if any time left in the regular school day for providing teacher trainees with reality-oriented experiences to prepare them for their expanded role as community teachers and leaders. Secondly, we became convinced that if the rural teacher were ever to become really both a teacher and a community development leader, he would have to have more than two years of teacher training. At the Higher Certificate Level, which calls for two years of training either after Grade 12 or after Lower Certificate training, there is much greater room for introducing new subjects in the curriculum since the proportion of total time devoted to pedagogy and general education is not as high as under a two-year program. If all teachers, therefore, could have four years of training instead of two, a much greater amount of time than at present could be devoted to community development and subjects of direct and immediate use to rural communities. We are thus expanding as rapidly as possible Higher Certificate teacher education with the hope that soon it will officially represent the minimum certification requirement. We are at present temporarily delayed in mandating the requirement only because of the extra expense involved, expense related to both longer periods of teacher education and higher salaries that would have to be paid to the more highly qualified teachers.

Given all the above problems, we have not taken the easy path and merely postponed our efforts in making the rural teacher an agent of community change. Rather, we have accepted the challenge and attacked the problem on three main fronts. First, we have involved teacher trainees in community development activities as a regular part of their training both during their teaching practice and during their periods of vacation. Second, we have tried to use the *total* environment, and not just the formal instructional period, as an educational instrument designed to cultivate attitudes of responsibility and hard work. We have presented information and problem-solving exercises related to hygiene, nutrition, housing, and use of leisure time–subjects so vital to rural transformation and improvement. Third, we have involved the teachers colleges in the activities of the adjacent communities, and in the improvement of elementary schools over a large area surrounding the colleges. We have also tried to involve the communities in the activities of the colleges.

It may be useful to explain in more detail some of the actual activities that are taking place at present, or which have taken place in the recent past. To begin, each teacher training college assumes some responsibility for the professional growth of a large number of associated elementary schools, often as many as fifty. Most of these schools are in rural areas. The colleges provide them with books, teaching materials, and consultation services. They also organize during vacation periods inservice training courses and seminars. In addition, trainees from the teachers college are sent in groups of five to ten to carry out three months of teaching practice at these associated schools. The trainees live in a dormitory near the schools, which usually has been constructed by the community. They spend about half their time in practice teaching and the remainder on community and school development projects. The evaluation of the student teachers during this period is based partly on their classroom performance; however, greater weight is given to the improvements they were instrumental in promoting in the school and community. During teaching practice there are frequent visits, normally once a week, from supervisors at the college who not only guide and advise the young trainees, but also provide some instructional continuity between the efforts of one group and the next.

Although only about one quarter of the formal instructional time is devoted to practical work, when the total time the student spends in various activities on campus is considered, this proportion is much higher. For example, at one teachers college the students get up every morning at 5:30 and spend the first hour of the day farming, cutting grass, cleaning the classrooms, or engaging in some other chores. The activities are closely supervised in order that students may develop new skills and, more important, develop mature attitudes of responsibility and self-discipline. On weekends or during vacations, student volunteers may be involved in larger projects, such as the construction of buildings, open-air theaters, and sports fields. In addition, each student spends one day in each term working in the college cafeteria serving other students, preparing food, and washing and cleaning. He will also assist with clerical and sub-technical tasks in the library, science laboratories and domestic science rooms. A student's academic success is dependent in no small way on his active participation in work programs and in his attitudes toward work, however menial. Developing a healthy respect for sweat and hard work is certainly no easy task in any society, yet it is truly indispensible for societies that seek progress and self-reliance.

It is with the community development activities carried out by students at the training colleges where we can really see concrete signs of success in our teacher education programs. Our fundamental aim has been to encourage student teachers to act as catalysts in the local communities, and to motivate the villagers to participate in the development of their own community. Often it might have been quicker for the students to have done all the work on a particular project themselves. But such an approach would have lacked the long-lasting educational impact produced by allowing villagers to improve their own environment through their own efforts. Learning comes not so much through listening and watching as through doing.

During the process of development of community activities we have either assisted other government agencies with their projects (for example, by helping the district agricultural officer to transport insecticides to villages and teaching villagers how to use them), or sought advice and assistance from them and other agencies. Here, too, we have an educational objective. We want the student teachers to be more aware of the extent to which other government services exist, and also to realize what these services can accomplish so that after completing their training and finding themselves virtually alone, professionally speaking, (except possibly for a few fellow teachers) in a remote village, they may have some idea about when and how to call for assistance from other rural specialists.

During recent years teacher training students have been involved in a considerable number of community development projects, but always in close cooperation with the villagers. Roads have been constructed, wells dug, young farmers and young women's clubs formed (about half the teacher training students are female, and they too have to spend three months in residential teaching practice with community development work in village schools), new crops for a more balanced diet introduced, latrines dug, libraries established and stocked, schools built and improved, school lunch programs started, and special educational programs initiated for pre-school children.

The challenge of innovation in teacher education is the challenge of a total environmental approach to the preservice children, but also in acting as agents of change in rural transformation. Many new ideas–at least new to us–have already been successfully tried and developed in Thailand to achieve this goal. Others are now in various stages of implementation and experimentation. For example, one college has established specialized dormitories so that all the students particularly interested in one subject, say in agriculture, live in a common dormitory along with some of the agricultural teaching staff close to the college farm. Thus, in a sense, they will eat, sleep, feel, speak, hear and breathe agriculture–a total sensory experience.

We recognize that the development of Thailand is more dependent on changing the mental attitudes of the mass of the population towards change and innovation than perhaps on any other factor. Irrigation dams can be built, but this will not ensure that the water supplies will be used; new high protein foodstuffs can be produced but never eaten; birth control devices manufactured but not widely accepted. Of all the educated government personnel, it is generally only the teacher who is sure to be found in every community. Thus, it is primarily the teacher who must be depended upon to help create a climate for productive change–a climate that maintains the best of traditional values while opening the door to new values consistant with rural life, but also sensitive to the overwhelming changes that are currently rocking our shrinking world. The challenge to teacher education in shaping a better world for our respective nations is obvious, yet illusive. I doubt, for example, that we shall somehow, somewhere stumble upon or discover some panecea or earth-shaking breakthrough. Unfortunately, perhaps, human problems do not easily level themselves to fast, computer-like solutions. Answers, to the degree that they exist, I feel will come only a little at a time. What is required of us, as educational leaders, is an appreciation of history, a commitment to mankind, a tenacity of purpose, a respect for freedom of inquiry, and a faith that humanity can find a higher level of fulfillment. And somehow it would be nice to feel that each of us had some small part to play in leading that dramatic adventure.

Temple-Philadelphia Portal School Concept

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The Portal Schools in Philadelphia are based on a concept of concentration. They were initiated from the assumption that even if a university could produce the best pre-service teacher education program, their graduates would succumb to the environment in which they began their teaching careers. Therefore, it is the universities' obligation to improve that environment. It cannot accomplish this by piece-meal "innovative" programs, particularly in the inner city schools where there traditionally has been typically less stability in student and sometimes teacher population than in suburban districts. The improvement of these schools must be done by pouring resources into them, even at the political expense of denying student teachers, in-service and other programs to the more affluent schools whose programs may be more a result of their teacher and student input, the parents, the community status, and per capita expenditure for education than the objective performance of the school's program were is not for these strongly supportive factors. Inner city schools do not have these axioms, yet education is probably the primary hope for their inhabitants.

A teacher education institution cannot improve its cooperating schools in cities without *concentrating* its input in selected schools where conditions indicate some chance of success. It further is extremely presumptuous to assume that teachers can be taught how to teach entirely on college campuses in the absence of children. Thus, universities must move into real, problem-ridden communities if they are to demonstrate that in fact there is a better way to educate children. And this "better way" ought to be a result of the university's input and not a correlate of social class, family background or the wealth of the school-community. Furthermore, if beginning teachers model their initial teaching from the way they have been taught, then it behooves colleges to demonstrate superior teaching, curricular changes, and achievement gain of students in their own yards where most of their influence is and many of their graduates are placed.

Temple University's College of Education has demonstrated such a strategy. Led by its Division of Curriculum and Instruction which is responsible for 75% of the College's undergraduates, 40% of its masters and 20% of its doctorate degrees, the College began developing student teaching centers in urban schools five years ago. Now there are 26, each with 10 to 12 student teachers. Following this, four years ago, EPICT (The Elementary Program for Inner City Teachers) was initiated in which all methods instruction was taught by professors in city schools; now the majority of the elementary undergraduates are in this program. This was followed by combining field experience and tutoring with instruction in educational psychology; now every undergraduate spends two half days per week in both city school and city community tutoring. Next, these three programs, student teaching, methods and tutoring instruction, were combined in selected elementary school buildings and a combination of federally and state funded programs were added such as Trainers of Teacher Trainers, Teacher Corps, National Science Foundation Institutes, Educational Personnel Development programs, Career Opportunity Programs, Special Education Resource Rooms, Veterans programs, and Graduate Intern Programs in a wide range of fields. This gave enough programs per building so that the majority of each school faculty was involved in one or more Temple programs, with each program guaranteeing the teacher three hours of free tuition at Temple. Then the College was in a position to offer in-service courses and programs designed to meet the needs of each school and on their terms, and at no direct cost to the schools' teachers.

Then advisory boards were created for teacher education in each building. These boards were composed of representatives from the school administration, the teachers' union, the community, the university, and in some cases the student body. They were advisory to the building principal and assisted him in selecting and developing, from among our 23 urban teacher education programs, those best suited for his school. But, in many cases, once the right was earned to become part of the school on a *quid-pro-quo* parity, the influence of these boards went beyond teacher education. Four inner city schools, from among the 26 student teaching centers, 12 with EPICT, that created advisory boards and increased the number of Temple programs earned the title "Portal School."

Thus, Portal Schools are where university programs are concentrated, where the resources of the school system, the community, the teachers' union and the university are cooperatively shared and allocated, where in-service and pre-service education are realistically combined. With so many university students and professors in each building, in-service instruction can become a reality in the daily classroom. Thus far there are 11 professionals involved in the Portal Schools, appointed by both the Philadelphia Public Schools and Temple University and ranging from associate professor to supervisor. Four of them, one in each of the subdistricts surrounding Temple, carry the title "District Director of Teacher Education" and are responsible for managing the myriad of teacher education activities in their district.

A brief review of the resources shared by each Portal School and the advantages for all parties are outlined in the following summary.

Distribution of Resources

University	*School System*
Personnel	
District Coordinator	District Coordinator
Joint Appointed Supervisor	Joint Appointed Supervisor
Consultant Aid	Curriculum Specialists
Release time to staff for program development	Release time for teachers
In-service Credit extended	Consultants to pre-service programs
In-service Workshop Staff	In-service Workshop Staff
Special short term services, e.g. Educational Media, Counseling, etc.	Clerical Staff
Clerical Staff	
Materials	
Provides those consumed in teacher preparation.	Provides those consumed by pupils.
Supplementary materials for teacher preparation.	Basic materials available to professors.
Equipment available from University, temporary or on loan.	Teacher Center ordering of district equipment for short of long term use.
Facilities	
University facilities available for special services, such as; Media, Instructional Materials, Group meetings, workshops, luncheons.	Office Space for Temple Joint Appointed Staff. Classroom space for pre and in-service purposes.
Students	
Pre-service students volunteer for a two year program.	At least 60% classroom teachers volunteer to participate in University Program.

Program

Cooperatively planned by both and may be initiated by either. Modifications of existing programs or new planning are negotiated and must be acceptable to both.

Budget

Money must be committed from *internal* budgets of both and seed money provided by both.

Federal and/or State funds include both in cooperative plan; budget planned so that stringent budget cuts of either institution will not drastically affect the other.

Accountability

Both are accountable to their constituents and must constantly alter and modify their programs to the instructional needs of both.

ADVANTAGES TO ALL PARTIES

Advantages to School District

1. More appropriate use of supervisory personnel for resource as well as in-service help for teachers or aides that are new to each building.
2. Pre-service students receive training that is organized so as to provide instructional service to meet each individual school's needs.
3. Pre-service students and professors help each school/community bridge the gap by conducting after school programs, home contacts with parents, and enhancing the communications network.
4. Provides a mechanism for University and school district personnel to work more closely together in developing a meaningful curriculum, attacking problem areas, developing new instructional techniques and in appropriate research.

Advantages to Teachers

1. Six semester hours of graduate credit per year at no cost with a masters degree possible in five years.
2. Reorganization of classroom instruction made possible through the higher ratio of adults per pupils.
3. Access to resource people in curricular areas and supervising personnel.
4. Exposure to new curricular materials, ideas and methods.
5. Participation is voluntary. Teachers have a wide variety of program choices and types of teacher-student involvement.

Advantages to Community

1. Better transmission of knowledge about the school to parents and community.
2. Parental participation on advisory board provides opportunity for parents to give feedback to university programs.
3. University staff as resource people provide workshops, informal classes for parents to acquaint them with curricular materials.
4. Evaluations indicate to parents increased achievement of pupils, increased attendance, and more positive attitudes of students, parents and teachers toward their school.

Advantages to University

1. Professors can field-examine curriculum and instructional methods with immediate feedback at both pre and in-service level. They may teach by demonstration or serve as classroom consultants.
2. Supervisory loads are more realistic, concentrating in not more than two schools. This provides for more total service to school staff than hopscotching supervision of student teachers in several schools.
3. Development of meaningful research with added resources of school district research office and local school support.
4. Internal professional rewards of promotion for field based experiences as one recognized criterion. Monetary reward of overload pay for in-service teaching to those populations who request a particular professor's expertise.

Advantages to College Students

1. Provides a realistic urban based training experience for four consecutive semesters.
2. Students become "teachers" rather than students because they are viewed as part of the school staff. To have an in-depth experience in one school is preferable to a surface experience in several schools.
3. Students have the opportunity to experience a variety of grade level and special placements within the context of one administrative structure rather than relearning informal communication and administrative procedures each time.
4. Students have a variety of choices of urban experiences: large school or small, bilingual, geographic area of inner city, grade level, special programs, and so on.

The Temple-Philadelphia Portal Schools differ from other Portal School models chiefly because they are a process and not a model, a natural outgrowth of previous commitments, strategies and programs. We found it unwise and impossible to superimpose a university created model on inner city schools with all their concomitant problems. But to build on what is deliverable has been a sound practice which has improved teacher education, increased the tested achievement of school children, and orchestrated the school, community, teachers and university into a common bond of success. What has been achieved in the last seven years, culminating in four Portal Schools in the last two years with four more to be added next year, is a new institutional direction in teacher education. City-wide test data support the fact that each Portal School has increased achievement among its students. Subsequent studies of a more subjective and diagnostic nature indicate substantially increased parental support of schools (which is almost absent in inner cities), the introduction of newer teaching techniques and materials, and a pride and team spirit which has been absent from the cities' poor communities since the 1940's.

This effort has tried to make a difference in Temple's own back yard. It has tried to establish an institutional commitment which dealt with the majority of the College's programs; it has tried to utilize special projects to enhance major programs; it has tried to alter the university reward system so that demonstrating superior teaching in schools paid off as well as publishing; and it has tried to teach teachers by example with real live poor children. It has tried to make a beginning on a broad enough base to be sustained, and not vanish like the multitude of "innovative symbolic crusades" that have emerged over the past fifteen years. This was achieved without the writing of federal proposals, without isolating special projects into the remote corners beyond the mainstream of communications, and without severe increased cost to taxpayers. While it is not a documented model, it is a process or concept fully capable of replication in any university setting which has schools near it.

Enhancing the Linkages Between Society and Education in the German Democratic Republic and Hungary

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The German Democratic Republic

The new education syllabus and its place in the training of subject teachers

Within the general reform of teacher education in the German Democratic Republic, which is gradually being introduced on a planned basis in line with the organizational and internal development of the school system, the education component is of particular importance because of the importance of developing the teacher's personality. The changes have gradually been made, starting from the academic year 1969-1970, in content and methods of subject teacher training in the teacher training institutes, higher teacher training schools and the teacher training faculties of universities representing positive measures which are in line with the general reform of higher education and with the new educational responsibilities of the general polytechnical schools and the special schools. Under the latest reform (1969) the syllabuses for teachers of the general and polytechnical schools include:

Principles of Marxism-Leninism
Special subject (major subsidiary)
Education, psychology and teaching methods
Sports
Introduction to logic and the theory of science or introduction to cybernetics and the theory of information
Further general education (compulsory advanced Russian, optional second foreign language, cultural and artistic education)

Training of subject teachers is divided into two phases: basic and specialized. During the basic phase, covering the first two years, the accent is on basic courses in education, psychology, the two special subjects and the principles of Marxism-Leninism. During the second phase, in the third and fourth years, students have the chance to specialize further within the framework of various optional and compulsory subjects; a great deal of attention is given to independent research and the practical use of the knowledge acquired. Students specialize in two subjects, the range of subjects being strictly laid down by the Ministry of Education. Considerably more hours are spent on the major subject during the second part of the training than on the subsidiary subject. The special four-week practice period at the end of the sixth semester also helps students get to the heart of their special subjects. The latest teacher training reform also brought into the syllabus an introduction to cybernetics and the theory of information, or alternatively, an introduction to logic and the theory of science, which is in accord with the directives of the third reform of higher education, by virtue of which these scientific disciplines were included in the curricula of all higher education establishments. Under the present reform, the most important objective in the education component is to weld the various parts into a single system, well adapted to the growing demands made on teacher training, in order to achieve a greater degree of unity between theory and practice.

Among the most important measures in relation to the education component is the introduction of a course in the principles of education and psychology in the first year (two hours a week for each of the two semesters). The syllabus of the basic course was prepared jointly by educationists, psychologists and experts on teaching methods. Among the main topics of lectures and seminars on the basic course are the following: the growing importance of educational theory and psychology in a developing socialist society; the educational process; the dialectic of social development; education and upbringing; the all-round development of the socialist personality; psychological development and the psychological processes and characteristics of the individual; the content of education and the further development of civic education in the German Democratic Republic; administration of the socialist education system; and main areas of psychological and educational research.

Introduction of the principle of "scientific-productive training" in teacher education

The principle of "scientific-productive training," which, by the decree of the State Council of the German Democratic Republic, of 3rd April, 1969, is, since the academic year 1969-1970, being systematically introduced into the curricula and methods of theoretical and practical training in all higher education establishments and is of outstanding importance for the training of teachers. The underlying idea behind it is the combination of a socialist education with modern scientific training, and at the same time, the combination of theoretical instruction with practical training. In the first place this means that students acquire, through modern methods of instruction, the most up-to-date scientific knowledge and methods of independent research, which they couple with practical work and a variety of practical activities.

There are three distinct aspects of scientific-productive training, dialectically related to one another: prescriptive, reproductive and productive. The most advanced, complex and highly skilled of them is the productive aspect, but this in no way implies that the prescriptive or reproductive sides are to be underestimated; they too have their part to play, especially in the first two years, during the so-called basic training. From a non-independent, irrational and uncritical acceptance and accumulation of knowledge to an independent, rational and critical absorption of it and then to reproductive and especially productive activity is a long process. The target can, however, be reached through consistent application of the principle of scientific-productive training.

Taking the example of history studies at the Higher Teacher Training School in Potsdam, we shall show how the principle is applied. Scientific-productive training in history would require the students to study, for example, a particular field or a particular problem on the basis of source materials which have hitherto been incorrectly or incompletely used. The subject matter may be, for instance, the life of some individual or the history of a school, factory, region, district, or organization, a certain historical event or a particular period of national history, and so on. Work on regional and national history can be very effectively used for the purposes of propaganda. Student participation in research, which is of exceptional educational importance, can consist, for example, of making critical analyses of history textbooks or other works of bourgeois historiography. Further work involves applied research. It includes work of a methodological kind: development of new approaches to the subject and preparation of programs for textbooks and manuals, in which students can work in cooperation with their lecturers. This category may also include the preparation of teaching materials, such as visual aids, tables, excursion plans, and so on. Before the above mentioned forms of scientific-productive training can be used, extensive research projects and research groups must be organized, in which the students themselves take part. Efforts are being made to form interdisciplinary groups made up, for instance, of historians, philosophers, economists, lecturers in scientific communism, and so on.

The role of practical social and educational work in preparing teachers for their educational responsibilities

The new approach to practical social and educational work in teacher education in the German Democratic Republic, as it was introduced together with the new curricula in the 1969-1970 academic year, has several particular aspects which have not been worked out with the same thoroughness in other countries. There is good coordination between the various types of social and educational practice. They are also organically combined with theoretical educational and psychological training, so that as they perform the various elements of practical social and educational work, the students can rely upon the knowledge they have picked up during their studies.

In the training of teachers for the primary grades of the general polytechnical school, which is given in teacher training institutes, educational practice is spread out evenly over all four years of the course. It begins with three weeks of practice in the third semester after the groundwork in education theory and psychology has been laid. For one week during the fourth semester students practice in a nursery school. At the end of the semester there is a compulsory summer practice period, lasting three weeks, at Pioneer camps, during which students gain fresh experience as a follow-up to their systematic work in Pioneer organizations throughout the academic year. This is followed in the fifth semester by four weeks of practice in the first grade. The main school practice occurs in the seventh term and lasts for 15 weeks. During this time trainees attend and give lessons in all the first three grades, supervise out-of-school activities and also get to know something of parent-teacher contacts. In this semester the teaching of education and psychology takes the form of advice on specific problems arising out of the school practice itself. The young teacher teaches 26 hours a week under the supervision of an experienced senior member of the teaching staff who takes this work on without special remuneration. When the young teacher has completed two years of satisfactory work he is established in his post by the school authorities without having to go through any further examinations.

The specific tasks the students are given during their practice provide a valuable criterion for determining the level they have reached in educational theory, psychology and their special subjects. The instructions about school practice are identical for all higher educational establishments which train teachers of individual subjects. The experience acquired in the first two years since the introduction of the new education and psychology syllabuses, and of the new approach to practical social and educational work, has been positive. The fact that practical social and educational work is spread over the whole of the training course also has a favorable effect on relationships between lecturers in the departments of education and psychology and the students.

Hungary

A new view of school practice and social work in the training of women pre-primary teachers

Training of women pre-primary teachers lasts two years for students with complete secondary education. The syllabus for such training was approved by the Ministry of Education in 1970. Besides training in the theory of psychology and education, great importance is attached to practical work, which falls into two categories, social or socially useful work, and teaching practice. Social or socially useful work is compulsory for students from the third semester on. It covers a two week period and has the following objectives:

(a) on-the-spot familiarization of students with the life and work of workers and peasants, with their daily routine, political opinions, social and cultural life, and with their aspirations;
(b) awareness of the organization of industrial and agricultural enterprises;
(c) direct participation in productive work, familiarity with which provides students with a better understanding of its significance in the creation of social values; and
(d) development of positive ideas, through contact with workers and impressions acquired through sharing their work, about physical and intellectual work and their interrelationship.

During the period of practical training, they spend 4-6 hours each day in physical work, and at the same time carry out their own investigations into such matters as the cultural life of the workers or other subjects assigned to them in advance and chosen in accordance with their place of work. The content of this practical training is closely related to the work that these teacher trainees will perform in nursery schools, and provides them with an early opportunity of familiarizing themselves with the milieu in which their future pupils will grow up, as well as with the educational and cultural interests of young people from rural or industrial environments. The material acquired during the two-week period of practical work is analyzed and prepared for presentation in the faculty as a seminar project at the end of the third semester.

Teaching practice occupies an important place in the training of pre-primary teachers, and begins early, during the second semester of the first year. The students work without interruption for six weeks in selected nursery schools where experienced teachers direct their work. The students' activity is supervised both by the teachers of the establishment in which they are being trained and by staff members of the schools to which they are attached. The students must assemble detailed documentation concerning their activities.

Entrance examinations for establishments training teachers for basic schools

The teacher training establishments of the Hungarian People's Republic devote considerable attention to the subject of entrance examinations. Interest in teaching as a career is increasing yearly, as more and more students graduate from secondary education. The introduction of higher-level training for teachers of grades 1-4 of the basic school has made it possible to pay more attention to the qualitative aspect in the choice of candidates, and to improve the training provided. Entrance examinations are becoming increasingly more exacting.

At present, the entrance examination for prospective teachers of grades 1-4 consists of a general examination and a special examination to test the candidates' talents. The general examination covers native language (essay) and Hungarian grammar, literature and history. Admission to the general examination depends on success in a special test in music, art and physical education. The general examination also includes an oral component in which the candidate must show that he is proficient in the modern literary language up to secondary school level and that he is familiar with Hungarian classical literature (selected authors) and with contemporary Hungarian poetry. He has also to analyze one modern Hungarian play and one modern Hungarian prose work, together with at least one work of foreign literature. In addition to language and literature, the general entrance examination also covers particular aspects of biology and mathematics. Teaching staff of the training institutes maintain that the demands of the current entrance examination are excessive, particularly in the humanities. A new system of entrance examinations is being prepared on the basis of acquired experience, with more clearly defined criteria, and the introduction of a points system.

Prospective teachers for grades 5-8 of the compulsory basic school are trained in the higher institutions of teacher education in two special subjects. Entrance examinations are in two parts, comprising written and oral examinations in each of the special subjects. A maximum of 10 points is awarded for each subject, which is added to the points (maximum 10) awarded to candidates on leaving secondary school, assessed on the basis of the average performance over a period of four years in the two subjects in which the candidate intends to specialize. In the Hungarian People's Republic, as in other countries, there is a much greater interest in the humanities than in the natural sciences, and for this reason a candidate desiring to specialize in the former is unlikely to gain admission with less than 16 points, while a pass mark for the natural sciences (with the exception of biology) is generally only 13 points.

In the Hungarian People's Republic, the number of candidates for teaching is four times that laid down in the target figures. Moreover, the number of young women involved is steadily increasing, and accounts for 70-75 per cent of the students admitted to teacher training.

Content and nature of school practice and social work in teacher training faculties

An important element of the training provided in teacher training faculties is the practical educational work carried out by students in close association with their theoretical studies. The person chiefly responsible for school practice is the senior methodologist, who is a staff member of the department of education. His main task is to organize this work, to direct the work of the methodologists from the special subject departments and to exercise general supervision. He prepares the annual school practice plan which is submitted for approval to the head of the department of education. The senior methodologist keeps a systematic record of the progress of practical work, and makes a weekly check on the activities of the departmental methodologists and the teachers of the demonstration school. After prior consultation with the head of the department of education, he takes direct charge of the methodologists of the special subject departments.

During the sixth semester, groups of students begin to spend six hours each week (three hours for each subject) attending demonstration lessons. The demonstration school teacher conducts these lessons, which are then analyzed under the direction of a methodologist in the special subject concerned from the faculty. During the seventh semester, attendance at lessons occupies eight hours each week (four hours for each subject) in a similar manner. In addition to group attendance at lessons, the students during the sixth and seventh semesters attend lessons individually, during an uninterrupted period of one week at the demonstration school attached to the establishment of teacher education.

During attendance at lessons which, as we have pointed out, may be in groups or individually, students have certain clearly defined tasks. Group attendance forms part of a seminar program in the corresponding educational and psychological disciplines. Attendance at lessons is prepared in advance by means of theoretical studies, and the instructor responsible outlines the tasks which the students must perform. The students must compare the progress of the lessons with pre-determined criteria and write a report of their observation; where necessary, help the teacher in his work; assist the teacher in keeping order during the break; and at the end of the lesson, assist the teacher in supervising the departure of the pupils by accompanying them to the gates of the school, or to the transport which will take them home. The general description and analysis of a lesson begins with the basic question: "Did the lesson achieve the desired educational goals?" Its content, structure and organization are analyzed, with particular reference to the methods and educational principles involved. The personality of the teacher or students responsible for the lesson is also assessed.

School practice begins in the third semester with attendance at lessons for six hours each week. Groups of 10-12 students observe lessons conducted by the teachers of the demonstration school, moving progressively from one primary class to another. During the fourth semester, still in groups of 10-12, the students spend eight hours each week in this way, and begin their own teaching practice in their own language and national history. During the fifth semester they spend eight hours per week teaching other subjects and during the sixth semester they spend four weeks in full-time teaching practice. At the conclusion of his training, the student must give a lesson in the presence of a board of examiners, comprised of the methodologist of the subject concerned, the head of the subject department, the head of the department of education, the principal of the demonstration school and the teacher supervising the practical work.

Practical work in out-of-class education begins after the second semester with a training course for leaders of the "Sparks" (junior branch of Pioneers) organization which lasts 6-10 weeks. During the third and fourth semesters the students carry out regular work in Pioneer centers and youth clubs for a period of one hour per week. In addition, they carry out two weeks' uninterrupted work in Pioneer camps. During the third semester, the students also do full-time school practice in the first grade of a rural school. They do similar practical work at the beginning of the fifth semester, thus acquainting themselves with all the preparatory work connected with the beginning of a new school year in all four grades of the primary school. During the fifth and sixth semesters, they spend a total of 10 hours in extended day schools. Students do uninterrupted out-of-school work for six hours each week during the sixth semester, as Pioneer leaders of leaders of interest groups. The theoretical preparation for this activity is done in seminars, where they master the content, methods and forms of out-of-school work with primary and secondary school pupils. In addition, a new form of practical work has recently been introduced in the universities, with the organization of "summer practical work" for third-year students. The aim of this training is to familiarize them with the life of young people in their summer camps, and with the problems involved. The students work in camps which are basically different from the ordinary Pioneer camps, and gain experience in their organization. An integral part of this practical training is the five-day course of lectures and practical work organized before the beginning of the third year of studies. Before the beginning of the fourth year, the students are also obliged to spend two weeks of the summer vacation working either in Pioneer camps or in the summer camps of the Young Communist League.

Teaching practice begins during the second year. In the fourth semester, students carry out practical work in psychology, under the direction of a teacher from the department of psychology. A total of fifteen hours, divided into three periods, is spent on this practical work in clinical psychology. During the third year students do a total of 20 hours of practical work in clinical psychology. During the third year, students do a total of 20 hours of practical work in pedagogics and during the fourth year they do a total of 10 hours of practical work in their special subjects. Full-time school practice begins during the ninth semester, lasts three months and is carried out at the demonstration school, where the students must attend at least 12 lessons per week. Full-time teaching practice lasts from 1 February to 5 May during the tenth semester, when students must spend from 18-22 hours conducting lessons in each subject. Part of this practical work period, generally one month, must be spent in a rural secondary school.

The new approach to school practice in the teacher training faculties of the universities has been carefully thought out. Nevertheless, specialists have pointed out certain unsatisfactory features of this system. They believe that it is too early to begin practical work during the second year of studies, claiming in particular that the students are not yet sufficiently familiar with the psychological disciplines, which are the subject of examinations only in later semesters.

TEACHER EDUCATION CENTER: COOPERATION, CHALLENGE, AND COMMITMENT– THE WEST VIRGINIA MITEC MODEL

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A center model of teacher education may be designed by any group or any country which has the need for greater cooperation between school systems and institutions of higher learning in matters of teacher education. The West Virginia Kanawha Valley Multi-Institutional Teacher Education Center (MITEC), which is based on the philosophy of shared sovereignty, will be described in this paper. It is projected that you may be able to implement many of the ideas and cooperative programs MITEC has developed into a center model based on your needs. The term, "center," as used in this model, is a concept rather than just a physical place. It facilitates a cooperative teacher education program which includes both preservice and continuous inservice programs for students of teaching as well as clinical supervising teachers. Maximum cooperation is achieved as state departments of education, school/county districts, professions, communities, and institutions of higher education strive to foster innovation and creativity in education and to improve teacher training and renewal education.

Kanawha Valley MITEC is composed of six diverse West Virginia teacher education institutions, four out-of-state associate universities, two school systems serving 58,079 children, the West Virginia State Department of Education, the professional organizations, and the community. A graphic description of the organizational structure is shown in Illustration 1. MITEC is cooperatively financed by the State Department of Education, the colleges and universities, and the two school systems. The governing body of MITEC is a Board of Directors which operates in a quasi-independent capacity having representatives from each participating agent as voting, decision-making members. They meet once a month to establish guidelines and set policy for MITEC. Illustration 2 shows the structure of the Board.

How can we best achieve the goal of improved education through cooperative endeavor? MITEC's response is a teacher education model which offers the following ingredients:

1.0 Strong state department of education leadership and direction. The state department of education will:
  1.1 Establish state standards and guidelines for teacher education including cooperative centers. These guidelines should allow for a differentiated certification for clinical supervising teachers at various levels. This would be attainable by academic training as well as by performance-based standards.
  1.2 Encourage innovative and creative teacher education programs.
  1.3 Link all facets of teacher education (special education, early childhood, vocational education, etc.).
  1.4 Assume a leadership role in linking all agencies, federally funded as well as state and local projects, into a network to share consultants, protocol materials, programs, ideas, and media.
2.0 Cooperative arrangements and commitments of public schools and colleges as equal partners in teacher education. MITEC will:
  2.1 Implement a field-centered program utilizing school and community based experiences.
  2.2 Plan, design, and implement experience modules for students of teaching on site by school-based teacher educators, university representatives, and student representatives.
  2.3 Identify supportive, open, flexible schools as "Learning Laboratory Centers" for continuous progress of students, students of teaching, aides, and teachers of teachers.
  2.4 Focus on a team teaching approach in the Learning Laboratory Centers, emphasizing differentiated staffing and flexibility where everyone is a learner.
3.0 A reexamination of teacher education programs by colleges and universities in which they identify new roles and responsibilities in the center concept. Colleges and universities will:

KANAWHA VALLEY MULTI-INSTITUTIONAL TEACHER EDUCATION CENTER

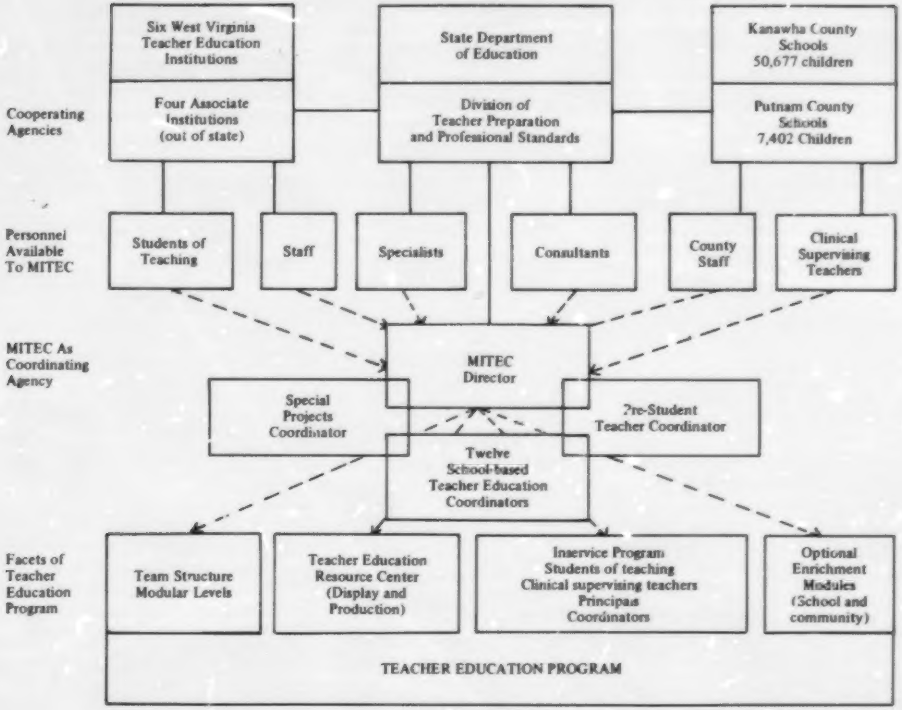
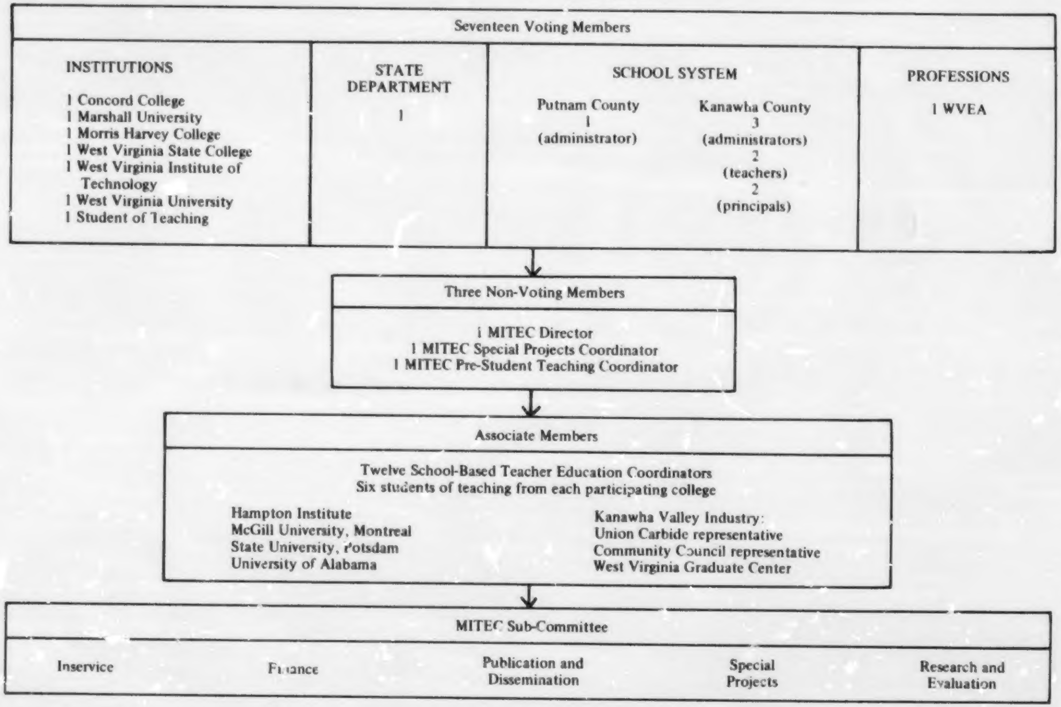

Cooperating Agencies
Six West Virginia Teacher Education Institutions
Four Associate Institutions (out of state)
State Department of Education
Division of Teacher Preparation and Professional Standards
Kanawha County Schools 50,677 children
Putnam County Schools 7,402 Children
Personnel Available To MITEC
Students of Teaching
Staff
Specialists
Consultants
County Staff
Clinical Supervising Teachers
MITEC As Coordinating Agency
MITEC Director
Special Projects Coordinator
Pre-Student Teacher Coordinator
Twelve School-based Teacher Education Coordinators
Facets of Teacher Education Program
Team Structure Modular Levels
Teacher Education Resource Center (Display and Production)
Inservice Program Students of teaching Clinical supervising teachers Principals Coordinators
Optional Enrichment Modules (School and community)
TEACHER EDUCATION PROGRAM

ILLUSTRATION 1

MITEC BOARD OF DIRECTORS



Seventeen Voting Members

INSTITUTIONS

- 1 Concord College
- 1 Marshall University
- 1 Morris Harvey College
- 1 West Virginia State College
- 1 West Virginia Institute of Technology
- 1 West Virginia University
- 1 Student of Teaching

STATE DEPARTMENT

1

SCHOOL SYSTEM

Putnam County
1
(administrator)

Kanawha County
3
(administrators)
2
(teachers)
2
(principals)

PROFESSIONS

1 WVEA

Three Non-Voting Members

- 1 MITEC Director
- 1 MITEC Special Projects Coordinator
- 1 MITEC Pre-Student Teaching Coordinator

Associate Members

Twelve School-Based Teacher Education Coordinators
Six students of teaching from each participating college

Hampton Institute
McGill University, Montreal
State University, Potsdam
University of Alabama

Kanawha Valley Industry:
Union Carbide representative
Community Council representative
West Virginia Graduate Center

MITEC Sub-Committee

- Inservice
- Finance
- Publication and Dissemination
- Special Projects
- Research and Evaluation

ILLUSTRATION 2

3.1 Act as consultants and counselors in the Learning Laboratory Centers.

3.2 Change their focus from supervisor to provider of inservice and continuous education programs at the public school level as well as the college level.

4.0 Linkages with the professions, the community, regional laboratories, Teacher Corps, Triple T (Training the Teachers of Teachers), Job Corps, Career Opportunities Programs, experimental schools, other states and nations. MITEC will:

4.1 Utilize resource people from all agents and from the community in planning a cooperative center and as the program is implemented, use them as consultants in inservice programs.

4.2 Have a variety of optional experience modules at different grade levels, in different school districts, and with other cultures giving the student of teaching a broader base for understanding himself and those he teaches.

5.0 Teachers and total staff retraining and inservicing to improve competencies in teaching and to work in new roles and new staffing patterns. MITEC will:

5.1 Encourage continuous staff development and renewing programs.

5.2 Utilize facilities of colleges and community in inservice training, but let the total staff of the school identify areas of need and develop programs and materials for inservice programs.

5.3 Provide a resource center in each Learning Laboratory School where self-instructional materials are housed, media equipment and library facilities are made available, where research may be conducted, and training materials may be developed.

5.4 Encourage flexibility in the use of time and the use of staff.

Emerging Roles in Teacher Education

During the first three years of the Kanawha Valley MITEC operation, a center Director was hired by the Board of Directors to implement the program. The success of the cooperative center is dependent on the ability of this person to be a multi-faceted individual. He is one who can cultivate people from all areas of the community, the schools, and the colleges to pool their talents and resources in the cooperative effort to improve teacher education. Specific duties of the Director include the following: (1) place 500 students of teaching from all cooperative institutions (eliminating competition and emphasizing the selection of outstanding schools as centers); (2) design cooperative inservice programs for students of teaching and building staff utilizing the human and physical facilities of colleges, schools, the state department, and community; (3) arrange and encourage inter- and intra-school observation and participation; (4) schedule optional modules of experience in other school districts and other states; (5) link all community and regional projects to the teacher education program; and (6) disseminate national teacher education materials and training and protocol materials developed through MITEC to schools designated as Learning Laboratory Centers.

As MITEC grew and the program expanded to include pre-student teaching experiences, student teaching, and continuing education, the need for additional MITEC staff also grew. In 1971 a Special Projects Coordinator is responsible for identifying and arranging a variety of community and school-based enrichment experience modules for students of teaching. Students of teaching may select enrichment experience from fourteen options based on their preference and need.

MITEC sees schools of the future and education of the future not confined within the walls of the schools or even in schools without walls; education is seen as a life-long, world-minded process with many roads and many choices available. Three cycles of capstone experiences for students of teaching are developed in Illustration 3. Prior to this capstone experience, the student of teaching will have had many previous laboratory and community modules in early college years. These may vary among the six participating colleges according to their individual philosophies.

Other MITEC staff members added during 1971 are a Pre-student Teaching Coordinator, who identifies in behavioral terms graduated levels of laboratory experiences for college sophomores and juniors, and a Research and Development (R & D) Coordinator. As MITEC continues to grow, it sees accountability as the vehicle through which direction, expansion, and needs assessment will take place.

Inservice and Renewal Programs

MITEC offers a variety of inservice activities for supervising teachers to enhance their professional growth and to improve their teaching competencies. Examples of some of these will be briefly described. Area meetings are jointly sponsored by MITEC's colleges and universities and school systems. The themes are identified by school-based teacher educators according to their needs, such as a "Conference Which Stimulates Self-Evaluation," "A Critical Self-Analysis of my Teaching," and a "Humanistic Approach to the Teaching and Learning Process." Luncheon workshops are sponsored each semester by MITEC to give special recognition to clinical supervising teachers. Other special guests include legislators, community representatives, state department and college representatives. Special graduate courses have been cooperatively designed by MITEC universities at the request of supervising teachers, based on their needs related to working with students of teaching. Graduate courses are offered on site at centrally located school centers, and are taught by teams of professors representing several of the institutions of MITEC.

Learning Laboratory Centers

There has emerged over the years a growing concern by all MITEC participants that a more meaningful and better experience in the preparation for teaching and teacher renewal could occur if special schools were designated as Learning Laboratory Centers. In these innovative school centers, a full range of professional and non-professional people engage in the pursuit of knowledge about how schools ought to operate. There is no predisposition to do things as they have always been done. This is replaced by a conviction that the way to operate a school is to put learning as the central focus of all activity and all persons who become involved in the program are first and foremost, learners. In such an experimental school setting, a great many trainees can be admitted to the program. They team up with regular staff members so that the students who are sophomores, juniors, or seniors in college can learn from experienced teachers in actual classroom situations. Dean Robert Schaefer has described this kind of school as "an institution characterized by a pervasive search for meaning and rationality in its work. Fundamentally, such a school requires that teachers be freed to inquire into the nature of what and how they are teaching."[1] MITEC will have fourteen Learning Laboratory Centers in operation in the fall of 1972. The Centers are available for a variety of community and extra school uses. Such use includes recreation programs, community library services, cultural activities, programs of remediation and enrichment in all instructional areas for all age groups, including adults.

Community aides, college aides, clinical professors, and students of teaching contribute to the differentiated staffing patterns of the Centers. Teacher Education Resource Centers are integral parts of the Learning Laboratories and are housed in specific areas. The Resource Center contains films, filmstrips, games, books, pamphlets, and simulation materials on teacher education. Special viewing centers and a studio for video taping and micro teaching facilities are a part of each Center. This arrangement provides a laboratory setting for the study of teaching. Preservice and inservice become one in a continuous educational setting where associate teams work together to analyze and explore ways of teaching/learning which evoke excitement and interest in a creative atmosphere.

In each of MITEC's fourteen Learning Laboratory Centers, a Coordinator is jointly identified by the universities and the school centers. This newly created position of school-based Teacher Education Coordinator links institutions of higher learning even more closely with the school systems. The Coordinator would first and foremost remain a teacher. He would not only teach children, but he would be willing to have his teaching analyzed and evaluated by his teaching peers as well as students of teaching. He would have two student teachers (identified as intern teachers) assigned to him each semester. This would provide the opportunity for flexibility in his related assignment as Teacher Education Coordinator. It is anticipated that approximately one half of his time would be spent teaching and one half coordinating all teacher education activities. As the principal and faculty may request special inservice programs at the school building, the Coordinator may assist in these programs. He first would work with the county inservice director and would also work closely with the colleges to draw upon their resources and staff in the inservice programs. The Coordinator would also conduct seminars with interns and students of teaching in the Learning Laboratory Center.

Autonomy and Parity

Each MITEC college and university is encouraged to maintain its unique autonomy and to create its own innovative programs within the center structure. Just as each student is expected to utilize his own particular individual talents and abilities, MITEC expects each member institution to utilize its resources and assets when pledging what it will contribute to MITEC.

One example of sharing with other institutions is West Virginia State College which, assisted by AACTE and the University of Pittsburgh, initiated our inner-city experience in Pittsburgh, Pennsylvania. As the program took shape, the MITEC Board of Directors was kept informed and invited to participate. Before the first year of operation ended, a student from another university had gone to the inner-city to do a portion of this student teaching. Now, MITEC offers this option to students, along with others in Mexico, Canada, and other states. Another example of autonomy and parity within MITEC is that of Marshall University. Marshall initiated the concept of the clinical professor, a joint appointment college and school-based position within MITEC. These clinical professors were placed in three school centers. After a one year experimental program, other colleges of MITEC were most enthusiastic about the results of on-site inservice education and the positive change in teacher and student teacher attitudes in the three centers. Consequently, MITEC is cooperatively identifying fourteen centers and coordinators for the 1972-73 year. An intensive summer training program will be cooperatively planned and offered for the fourteen coordinators by participating members of MITEC.

Some of the common threads of the cooperative center are: (1) all colleges and universities of MITEC agree to have students of teaching take part in a one week preschool orientation program sponsored by MITEC; (2) the Board of Directors cooperatively develops common evaluation forms for students of teaching; (3) the Board agrees that all colleges will use the same recognition and honorariums for clinical supervising teachers; (4) teacher education materials and media are cooperatively shared and developed by the participating institutions; and (5) team teaching and team sharing of graduate and undergraduate methods classes as well as inservice programs will be cooperatively offered by participating colleges.

Projection

The State Department of Education in West Virginia has assumed a strong leadership role in supporting and encouraging the center concept. State standards and policies have been adopted and guidelines established for the organization of cooperative centers to improve teacher education and promote continuous education. In 1971 the West Virginia Legislature became convinced that a cooperative approach to teacher education would benefit the entire state. They had seen the results of the pioneering efforts of MITEC and were anxious to implement centers throughout West Virginia. One hundred thousand dollars were appropriated on a yearly basis to develop six cooperative centers which would serve the state. Each of West Virginia's seventeen teacher education colleges is now a member of one or more of these centers.

For a more detailed description of the Kanawha Valley Multi-Institutional Teacher Education Center model (MITEC), the reader may refer to: *In West Virginia, It Is Working.*[2]

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[1] Robert Schaefer, *The School as the Center of Inquiry.* (New York: Harper and Row Publishers, 1967.) p. 3.

[2] Maddox, Kathryn, *In West Virginia, It Is Working: One Teacher Education Center In Action.* (Washington: The American Association of Colleges for Teacher Education, 1972).

VI

INSERVICE TEACHER EDUCATION

Some Issues In Inservice Teacher Education

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There is very little innovation in the idea of inservice teacher education because it has been going on for a very long time. Yet, the challenge of it remains as one of the universal problems that confronts the teaching profession and those of us engaged in teacher education. I am not going to rehearse the current reasons for emphasizing inservice teacher education, nor am I going to argue the present importance of it. You have already demonstrated it, in part, for any conference or publication of ICET is of itself a bit of inservice education. There was a time, relatively recently, in most countries, when people were paying lip service to the idea of the continued education of teachers, but were not providing the facilities, finance, or personnel to enable it to be effective. Why do we have to wait for someone like Lord James or others to tell us this is the most important thing there is? We all know it is so, and we would in fact be implementing these ideas long ago if we only had the opportunity to do so.

Who are the providers of inservice facilities now? How do their facilities vary? What are their intentions when they make inservice provisions for teachers? Does the provision of inservice facilities by all universities arise from the emergence of education itself as a separate field of study? What about the Colleges of Education? The Council of Europe stated that it is imperative that every institution engaged in initial teacher education should commit itself to inservice education as well; that there is a challenge to anyone conducting a course of preservice preparation for the profession to also make provision for inservice facilities. So the Colleges are doing it in different ways in different parts of the world today. Employers do it. Employers have a long tradition of doing it in London. In 1872, Thomas Huxley, the great biologist himself conducted courses for teachers as an employer of teachers of the new biology. But one of the questions we must ask is whether employers are the best persons to provide courses for employees? They may twist the direction in which education services take in order to provide the kinds of facilities that are needed in their villages, in their rural backgrounds, in their industrial development, and so on. And what I am saying about employers may in some countries be the central authority, and in other countries may be a local authority of teachers. It is a very puzzling question as to how far this shall in fact be a perogative of employers. Then equally, a most important role is filled by the profession itself. The profession and professional bodies have for more than a century been providing in different parts of the world inservice educational opportunities for their members. There are bodies in England, for example, such as the Educational Development Association, which last year ran some 80 inservice courses for teachers on an entirely voluntary basis. And this body was formed in 1888. Forty years earlier, in a slightly different milieu, the College of Preceptors, a curious Victorian name, was created with a royal charter in order to provide facilities for the inservice education of teachers. So the profession has a long and sustained tradition of service to itself, particularly through specialist organizations such as teachers of classics, teachers of mathematics, and teachers of sciences.

One of the problems presented by this variety of bodies involved in inservice education is the coordination of it. Some of us believe that we ought to be moving in the direction of coordination of inservice facilities by the profession itself. It would not be enough to leave it to any one of the providers to coordinate. In this country at the moment we think that coordination should be vested in the universities and in the area training organizations as they are set up now because these contain a federal relationship of universities, employers of teachers, local authorities and teachers. And they represent neutral yet interested groups of people who could coordinate the activities of all, although this is sometimes disputed. One of the major disputes seems to arise from the desire on the part of employers of teachers to control and coordinate the inservice provision. This is a very real problem that has to be resolved, before we get into the next century anyway.

Another problem that is very difficult to come to any conclusion about and has a variety of different national solutions is whether or not inservice education should be compulsory or voluntary. One could seek a solution like that in Sweden or Czechoslovakia where it is possible to produce a contractual relationship, or one might even have something like the United States solution in which a contract is not spread throughout twelve months of the year so one has spare time to use in relation to negotiating conditions, either from compulsion, obligation or for voluntary participation. However one looks at it, one has to reflect that any development that takes place must be related to the preponderance of small schools in the world. In large cities like Chicago, New York, London and Moscow, there are large schools. But throughout the whole of the world, there are many more small schools. There is no school, for example, in one British county that has more than two teachers. One has to look seriously at the problem of what happens if you cut in half the normal teaching strength by making an obligation of inservice education.

Then, the other question related to this involves the point in the teacher's service which should be considered as the optimum period. If one does a process of calculation like the James Committee and arrives at an answer of one term in so many years, when should it fall? When should it be done in the best interest of the teachers and in the best interest of the children? And how long should the unit of inservice education be? And if you know what the total period should be in a professional career, how frequently should the units occur? In the Soviet Union, once every five years, one day a week, is spent in inservice training by all teachers. Or so you believe until you actually talk to some teachers who describe how they have been able to dodge the issue and not do any at all. People in other countries where it is entirely voluntary have never done any. How frequently and how should it be rewarded? Remember that I did say that I thought coordination might best be vested in the profession. Is the profession able to sustain the operation of devising a credit allocation for participation in inservice education? Could your profession in your country do it? This is one of the fundamental questions about inservice education.

Another problem that occurs and is related directly to the previous points is that if one does proceed to produce a contractual relationship, then there are two ways of looking at a contract. The way that has been discussed so far is from the point of view of the teacher. What about the point of view of the employers? If it becomes enforceable on the teacher, it is equally enforceable on the employer of teachers, whether it is a national authority in some of your countries, or the local authority as in this country. And if it becomes enforceable, what is the effect of having recurrent inservice opportunities available for all teachers on the total teaching personnel available in the society and on the remuneration of the total teaching personnel? If one has a sabbatical, literally a seventh, then one has to add to the total pool of teachers the number of teachers necessary to sustain this and to sustain them in their inservice education. This is obviously an added cost to the total cost of education and possibly a diminution at any moment of the salary of all teachers. We have got to do some quite hard thinking about the economics of the question. Especially when we discover that some inservice activities, for example, are designed both by the people who provide them and by the authorities that second their employees to them (second them on full salary) as a means of transfer from one kind of education at one level of remuneration to another kind of education, another branch of service at another level of remuneration. So it is a kind of investment exercise in which you get seconded, you get the credits, you complete the course satisfactorily, and you never go back to the job which you left. You become an inspector of schools; you become a lecturer in a college of education; you even become a president, perhaps because the educated group of people who go to the next level are, in fact, preparing themselves for another kind of service, probably outside education altogether. This must be seen as an important condition and argument related to inservice education.

I am not going to go on to say that because much of inservice education is now part-time, there is no value in part-time study. I think there is an immense value in certain kinds of part-time study, but I think that we really ought to make it quite clear in our own minds that we no longer simply want teachers to give up their evenings and their weekends to courses of study which are going to lead them to be more effective teachers or more responsible members in the profession. We do not want them just to give up their summer vacations for international conferences, but we want to see much more provision of *full-time* or *part-time day relief* where it is possible to release teachers in wide areas on Fridays or Mondays or something of this sort. Industry has been demonstrating the advantages, and we have been looking at them with our eyes closed, of a pattern of courses in which there is full-time participation in work and then full-time participation in study and then more full-time participation in work. In many countries there is a definition of what constitutes a school year. In the United Kingdom it is 200 sessions or 40 weeks of five days a week. And this is a requirement for children and teachers. If one wanted to quite suddenly electrify the situation here, one might persuade the authorities to reduce the requirement from 200 sessions to 180 for children and retain the additional 20 for teachers. Just think of the social revolution which this would achieve in the teaching profession! There might be some resentment as well, but one could contrive, I think, with the right appeal and approach and the right relationship of teacher organizations, to secure with one stroke of the pen a much greater possibility of teachers participating in full-time inservice education. So the use of the school year is an essential feature of the notion of how and when inservice education takes place.

What shall we do with initial preservice teacher education, when inservice education is accepted and expected? What about those crowded and hurried courses in which everything is tried out for all people for a period of three years or two years and, in some cases, before students have reached the end of their secondary education? If we have the notion that we can actually guarantee that a large proportion of the teaching profession will in the course of its life of service have recurrent access to inservice education, what shall be dropped from initial education? It is rather like whom shall we save if our balloon is starting to lose height and there are six of us in the cabin being carried over the mountains. You drop me out first because I am the heaviest one, but there are some things that are very heavy in initial education that you cannot afford to drop out. There are some things that derive their real importance from the close relationship between theory and practice. Not the theory as it is expounded by someone in the classroom in the college of education and not the practice as artificially discovered in the relationship of student to pupil and to school, but in the real practice of service in the schools, where suddenly a transmutation comes over the *theoretical/practical relationship*. I no longer would like to secure this as a change in initial education, but in fact it is often confined to what happens subsequently. Some easement will come about in the initial courses. There will be more room and time and space. There will be greater absorption of school relationships and there may be a reduction of insistence on academic and professional subjects. The effect of this change in initial training may very well be seen in the personnel in schools. We may need to have, as has been suggested by Lord James, and is in practice in many countries, personnel other than those now in the schools to help in this process. We may want to have a change of personnel in the colleges with a closer interrelationship between schools and colleges just because of the development of inservice education. We certainly have to look very carefully at the allocation of time spent in different branches of professional preparation, and we must study carefully how pressure is brought to bear and authoritative decisions are made.

Who should be the personnel engaged and identified as being engaged in inservice education? One of the basic suspicions of the customer, the teacher, receiving inservice education is that those who are engaged in preservice education are less well qualified to provide inservice education than almost anyone else in education. This is a horrible thing, but it comes up time and time again. The attitudes of lecturer to student are not modified enough when they become the attitudes of lecturer to teacher. There are many lecturers in colleges of education and universities who are quite excellent, but there remains a rather odd hesitance, an unwillingness to accept the contribution of people from colleges and universities in inservice education. How can we overcome, how can we disarm them? If we are going to move into the area of teacher centers, how are we going to equip them? What facilities should be provided within them in order to achieve a target that we may have not completely worked out for inservice education for teachers? Think of the books, the audio visual aids, the arm chairs, the carpeting, may I even say the flowers and the decor. Teachers are, of course, human beings and anything that is just a sort of "mock-up" of the real classroom in which they spend their time is probably one of the reasons why already not one hundred per cent of our primary teachers and far from one hundred per cent of our secondary teachers engage in inservice education of this kind.

In sum, inservice education is extremely important, particularly in the light of the accelerating pace of development and change in the world and in educational research. But the generally accepted agreement on the importance of this aspect of the profession must not blind us to the hard questions and numerous pitfalls inherent in the implementation of the whole complex matter of inservice teacher education.

The Open University And Inservice Teacher Education*

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A discussion of the in-service education provided by the Open University requires some explanation of the origins and objectives of the Open University, particularly in the context of the development of higher education as a whole in the United Kingdom. At the end of the war, there was, of course, a great demand for higher education as a result of persons returning from military service. But by 1953, the intake of all institutions of higher education had fallen to the lowest point since the end of the war. From then on it crept up steadily and by the early sixties was running at some five per cent of the age group. At that point, the Robbins committee was established to consider the future of higher education and its report surprised the educational world by projecting a rapid and steady rise of demand until at least the early 1970's and then a further rise in demand but not at the same rate as during the 1970's. Subsequently, even those projections were shown to be at much too low a level and we now expect that demand for places will reach twenty per cent of the age group by 1980. Against this background it should be apparent that those of earlier generations who went through the educational system at a time when fewer stayed in school due to fewer places available in higher education or for other reasons, could be thought to be disadvantaged in comparison with the present generation. And it was in this context that in 1963 Harold Wilson, then the Leader of the Opposition, made a speech in which he outlined his proposal for a "University of the Air" which would provide for those of mature years, not of the normal student age, a form of higher education based primarily on the use of the mass media (radio and television). The fact that he made this proposal at a conference of the Labour Party is not without significance, because that speech concerned itself with the scientific and technological revolution and part of his theme was that we could deal with the problems created for us in terms of the supply of highly qualified manpower by utilizing the tools which scientific and technological progress placed at our disposal, such as the mass media. This remained the theme even after the Labour Party came to power in 1966 and the first White Paper on this subject was, in fact, called "The University of The Air." It was in the course of the deliberations of a planning committee, set up to consider the establishment of such a university, that the bias changed somewhat. Though the notion began as a University of the Air, by the time the planning committee reported, it was realized that thougn you could make use of the mass media in running such an institution, it must in essence be a multi-media institution, using not only broadcasting materials, but also a great deal of written material as well as integrating into the system some element of face-to-face contact.

By the autumn of 1969, the University had received its Charter and the first academic and administrative staff were established at Walton Hall, the University campus some 50 miles north of London. In January 1971, 24,000 students began to study foundation (first Level) courses in arts, social sciences, mathematics or science as the first step towards the attainment of their bachelors degree. It was anticipated that the fall-out rate would be approximately 25 per cent; in fact it was 26 per cent, and some of the fall-out was partial in the sense that some two-course students decided to drop one of their courses. By May, 1971 final registration fees had been received from just over 19,000 students for a total of 21,700 courses. In November, 1971 the first examinations were held. Of the 19,000 registered students, 15,800 sat the examinations, and 92.5 per cent of these were successful in gaining a credit. Over 1,600 students were awarded two credits. Thus, three out of four registered students successfully completed their first year's study. Application for the 1972 foundation courses totalled just over 35,000, of whom 20,500 were offered places. When the application period closed on 19 June this year, over 32,000 had applied to study in 1973. Of these, 17,000 have been offered places. With this new intake, the Open University's student population will rise to over 40,000 by the beginning of next year. It has thus become, within three years, the largest university in Britain.

**Edited version of Mr. Fowler's remarks as delivered at the World Assembly, supplemented by information supplied by the Information Services Department of the Open University.*

The University offers the Bachelor of Arts, with or without honors, at the undergraduate level. Six credits are required for the B.A. degree and eight for the B.A. with honors. Students with certain qualifications obtained at other institutions may be awarded up to three credit exemptions, and those awarded two or three exemptions take only one foundation level course. Thus, a teacher with three years' full-time training may in fact graduate after gaining only three OU credits. Foundation courses are offered in the faculties of Arts, Social Sciences, Mathematics, and Science and Technology. Second, third and fourth level courses are provided in these faculties and in a sixth faculty, Educational Studies, which has no foundation level courses. From the second level onwards a number of courses are "inter-disciplinary;" for example, the second level course *Biological Bases of Behavior* was produced by a course team from the faculties of Science, Social Sciences and Technology.

The system enables a student to choose widely from the different faculties, with a minimum of restrictions, or alternatively to take most of his courses in one faculty. Each course, which is produced by a course team of academic staff, BBC staff, and educational technologists, is self-contained and leads to the award of a full or a half-credit. In the Science faculty there are also one-third and one-sixth credit courses, which allows for even greater flexibility. Any one-third course may be combined with any one-sixth course to make up a half-credit; for example, at second level, Geology, a third-credit course, can be combined with Environment, a sixth-credit course. Students may take up to two full-credit courses a year, or they may spread their studies over any number of years, with intervals of any length between courses. A woman student, for instance, may wish to postpone taking the next course until after the birth of her baby. It is a fundamental principle of the University that no formal educational requirements are needed for admission. Students must be over 21 and resident in the United Kingdom. Admission is determined primarily on a "first come, first served" basis, but a quota system operates so as to balance the intakes to each course, from each region, and sometimes for each occupational category.

The Instructional System

The Open University claims that its instructional system is unique; but what is the system? The core of the student's learning resources is the correspondence material, which he receives regularly through the post. There are 34 or 36 study "units" in a full-credit course, each unit representing one week's work, which is likely to take a minimum of 10 hour's study. The correspondence parts of the units go out in the form of attractively-produced printed volumes, either bound separately or in groups, depending on their length. A typical week's booklet of, say 48 pages contains a considerable amount of exposition, illustrated by diagrams, charts, and pictures where necessary. To assist the student in assimilating the content, there are self-assessment exercises. There are also assignments which are either marked by a course tutor or are especially designed to be assessed by computer. The marks attained in assignments are recorded and the best are used as part of the final assessment of a student's performance. An examination is also held at the end of the year's course. In his correspondence package the student may also receive supplementary pages containing remedial or enrichment material and notes about the television and radio programs. At the beginning of their courses, science and technology students are sent home experiment kits containing, for example, chemicals, glassware, instruments and items of equipment especially designed or developed for the University. Examples of these are the McArthur microscope (which has won two design awards this year), a colorimeter, a tachistoscope, a "noise meter," a binary computing device, and a cathode ray oscilloscope.

Television and radio are, of course, important elements in the learning process, though in terms of the average student's time spent studying per week they represent together only a small proportion, about 10 per cent. Essentially, the television and radio programs supplement the written part of the courses. The degree of integration between the printed matter and the broadcasts varies considerably from course to course. In the science foundation course it is very close; a typical television program, for example, might ask students to turn to a particular page in the correspondence booklet and enter readings from instruments shown on the screen. In the humanities and social science courses television provides more in the way of enrichment than essential information; the programs are intended to deepen understanding. The use of radio programs also varies. One of the advantages of radio is that it can be used at much shorter notice to provide remedial advice.

In the summer there are one-week residential schools, which all foundation course students are required to attend (higher level courses do not always have a summer school

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component). Last year's experience at the summer schools showed that students were highly motivated and voracious for instruction, discussions and seminar work. Part-time tutors who were recruited from other universities said they had not enjoyed teaching so much for years! Since the Open University does not have a campus large enough to accommodate its own students, the residential schools were timed so as to take advantage of the spare capacity of other universities during the long summer vacations.

The University has 13 regional offices with responsibility for the organization of the important tutorial and counselling services. There is a network of nearly 300 study centers throughout the country, located in existing educational institutions. Open in the evenings and at weekends, they are places where students can receive face-to-face tuition, in the true sense of the word, assistance and advice from tutors and counsellors, and also meet their fellow students. Most study centers have television and radio receivers, and in areas where BBC-2 and VHF radio cannot be received, they have film and audio-tape replay facilities, so that students can see and hear the programs they cannot receive on the public broadcasting system. Some study centers are also equipped with computer terminals for the use of mathematics students. Use of the study centers is entirely optional for students; the University's system is designed for home-based study.

As indicated earlier, there are six faculties, one of which is the faculty of Educational Studies. With regard to in-service education, it is clear that teachers are interested in more than the offerings of the faculty of Educational Studies, because in terms of the development of their own specialist disciplines, they may well also wish to take courses offered by some of the other faculties. And the credit system used by the Open University permits them to do this, that is, to make up their own total educational package in such a way that it best meets their own specific requirements. In general, students will in the course of devising their own educational package, find that though there appears to be a free range of choice, their choice becomes more and more restricted, not by the University itself, but merely by the fact that they would be unwise to plunge into a new discipline at the third or fourth level unless they had studied some material at foundation or second level. So you have a natural guide to the student's choice of courses which supplements the advice given him by his counselor. The faculty of Educational Studies is not in teacher education in the conventional sense. That is, a student may get his degree from the Open University, and he may have taken beyond foundation level all or the majority of his courses from the faculty of education's offerings. But he still does not become a qualified teacher at the end. All he has is a degree. That is why I say the Open University is not in teacher education in the conventional sense. One assumes that an Open University student who has gained a degree, in whatever subject, will be eligible to do a one-year postgraduate diploma or certificate in education and thus achieve qualified teacher status.

One of the quick judgments that is being made of the Open University so far by those who do not like its mode of operation, is that it has not managed to deal with the backlog that it was created to deal with, in the social sense, at least. In other words, too many of the Open University students, too high a proportion, are middle class. This is now becoming a standard criticism from the left, and it often utilizes the argument that the high proportion of teachers among OU students, over a third in 1972, is the clearest evidence that too high a proportion of the OU students are middle class. This is an unfair criticism in many ways. First, the class composition of the student body is apparently shifting steadily toward what such critics would regard as the right direction, year by year, judging by the first three years of its existence. Secondly, it is misleading to measure class composition in the Open University, where all students are over 21, in a fashion that is comparable to measurements taken in residential institutions of higher education. That is, the class of OU students is measured by their own job and not by their parents; whereas when you are looking at the class composition of a normal university, you are measuring by the parents' jobs because the students are coming at the age of 18. You may get many students at the Open University who come from working class homes, but have middle class jobs. The interesting feature of it, from our point of view, is that it often simply takes the form of saying, "Look at all these miserable middle class teachers who form such a very high percentage of the total student body enrolled for the Open University." This is an unfair criticism by itself. The Open University is not responsible for the fact that an educational innovation such as the OU is discussed at much greater length in the educational press than anywhere else, nor is it responsible for the fact that the people who read the educational press happen to be teachers. The Open University is not responsible for the fact that teachers know much more about the Open University than any other single group in the country. That is partly because the OU's publicity budget has never been high enough. The second reason why you get a heavy teacher enrollment is that the teaching profession in this country is the one profession where a person who has not got a degree, but has obtained tutee status having followed a certificate course in a college of education, can calculate precisely the financial gain to himself of a degree or a good honor's degree. This is unique to the teaching profession; no one else can do this. Only the teacher can actually work it out in cash terms. Therefore, there is a high proportion of teachers overall and in the faculty we have a very high proportion of serving teachers.

The first way in which the faculty of Educational Studies provides in-service education is through a range of courses within the undergraduate program which are taken by serving teachers and which will enable these teachers to gain a degree and hopefully a good honor's degree. The object of the exercise is not simply a degree; it is to deepen and develop their expertise in certain areas of educational studies. As mentioned earlier, the Open University does give some credit exemption for previous attainment in higher education. One has to estimate how much of the previous work may be deemed to be *academic study* at *higher education* levels. One cannot count teaching practice or practical experience. The OU in this sense is very much like any other university which discounts that element of a certificate course which does not consist of academic study. Secondly, not all portions of post-eighteen courses may be deemed to be at the higher education level. For example, a Higher National Diploma is, rightly or wrongly, awarded only two credit exemptions in the OU system; a part-time qualification, only one, unless the student has gained three subject endorsements in addition to his basic certificate in which case that may also count for two. The problem that arose in considering the Certificate of Education was that the calculation showed that it was not quite three, and for that reason a quite exceptional arrangement was made in terms of credit exemption for Certificate of Education. If the teacher simply shopped around and took whatever courses he wanted to take, he would gain two credit exemptions; but if he took what is called the approved program of studies, he would gain three, and that meant that a high proportion of the courses which were chosen for the remaining five credits would be offered by the faculty of Educational Studies. It is argued that we are building upon their previous academic study and their experience in practical teacher situations with the course material that is offered to them and thus a greater credit exemption can be allowed than if they were simply taking a range of courses in areas in which they had no expertise, whether academic or experiential. Most of our students in the faculty will be aiming to take five credits rather than eight. That is an important point in terms of when students will graduate for the first time and how many courses they will have taken from the faculty.

Beginning the next academic year (the Open University's year is the same as the calendar year), the Open University moves into the post-experience field. Post-experience courses are designed to specifically build upon the experiences of the students. They may be courses designed to develop the student's expertise in the area which he is pursuing in his career or they may be designed to be "career-change" courses enabling him to switch from one area to another. The crucial thing about them is that they build from experience; you do not need to take a whole series of courses nor do you need to begin, as you do in the undergraduate program, with a foundation course. Students taking post-experience courses may enroll for that course alone. We expect here that the faculty will be able to make a fairly wide offering which will attract many serving teachers whether they have degrees or not. The first course that we are offering in that area, in March, 1973, is in reading development. This is a subject to which a great deal of attention is being paid currently as one of the weaknesses of the British primary and secondary systems. We hope that there will be a series of other post-experience courses and, although they are post-experience, it may be possible to use some of them as part of the undergraduate program too. This way you get the best of both worlds, from the OU's point of view, in that you are using resources in a much more economic fashion. On the other hand, most of the courses designed specifically for the undergraduate program could not be used as post-experience courses because they were not developed with that objective in mind, but rather as part of a coherent and developing program of undergraduate studies.

The faculty began with three courses at the second level: one in the area of sociology of education, called, *"School and Society"*; one in the area of psychology of education, *"Personality Growth and Learning"*; and one in the area of curriculum development, *"Curriculum Design and Development."* All three are half-credit courses, that is, there are sixteen or seventeen units in them and the student successfully completing the course, as measured by his performance on tutor-marked assignments, computer-marked tests, and in the final examination, will gain one-half credit toward his degree. We then proceed as from January of next year with three other courses: one developing from the general sociological line, one from the pyschological and one a cross between sociology and psychology, while the curriculum area moves into the post-experience development. The following year, we shall move into one course, at the moment called urban education, which is very much problem-oriented and concerned with the problem of the child in the urban environment. The second of them is concerned with the administration of educational institutions in the system. We should build a pattern resulting in at least ten full-credits, available by January, 1977.

One of the interesting developments in the OU is the approach made by a local college of education, just down the road from the Headquarters of the Open University, for a scheme of collaboration whereby students at the college would, at the same time as they took their certificate course, also be able to study for certain Open University credits. The point is that students may at the end on such an arrangement, if you can also count some of his college-originated material as counting toward Open University credit, receive far more credits as well as a Certificate than he would have gotten by the normal credit exemption system. The really good student may end up with five instead of three, that is, he would be five-eighths of the way toward an honor's degree. There are difficulties in such a scheme. One of them is that the Open University academic year runs from January forward and the college of education's academic year runs from September to July. This will represent no problem at all in terms of the written course material or even in terms of the television and radio programs, because they are on cassette and can be shown on closed circuit television or sound equipment within the college. Where you do run into problems is with the assessment of the student, in that you have to develop a whole separate final examination for the college-based students, since the examination must be taken at the same time by both kinds of students. Unless additional resources are provided, the Open University would be making something of a rod for its own back, in that there will be a heavier work load upon the academic staff, but no additional resources available to recruit extra staff to carry the burden. The problem arises from the fact that the Open University has now received some forty approaches with regard to some form of collaborative exchange, and if we imagine that forty such schemes were set up, one can readily see that there would be great difficulty from the point of view of staffing and resources.

How would this sort of development and the other work that the Open University is doing in this area fit in with future developments in teacher education in the post-James climate. One of the implications of the James Report is that the colleges of education will have much more independence, including the freedom to mount courses which may not be aimed specifically at intending teachers, that is, the general higher education market. If we imagine that each college is going to devise its own courses and submit them, if they are general courses, for approval to the local university, not just to the institute, then they will have to go through the whole gamut of university committees including serious examination ultimately at the level of Senate. Or they will submit them to the regional councils, a creation which James recommends. We will then have in 160 establishments up and down the country the same sort of protest which has been present in the Polytechnics for the past few years whereby an enormous amount of staff time, effort, energy and resources goes into course production and into getting courses approved and through the system. And yet many of those courses will duplicate similar courses which are provided just down the road. So from an economic point of view, it would clearly make sense for colleges to make more and more use of Open University originated material, whether in teacher education or even in the provision of general higher education courses and whether for a whole course or simply as part of a course. This is a possible development of the sort of scheme of collaboration which is now starting with the Milton Kane college, the college located near the Open University.

But there is another difficulty. The Open University was created to produce and teach courses. It was not set up to validate courses of other institutions, which is the job of the Council for National Academic Awards. Indeed the OU would not even know how to go about it at the moment. It would be inconceivable to have a development of the type just outlined unless there were to be very close collaboration at the very least between the Open University and the Council for National Academic Awards. One would see them at least federated if not ultimately merged into some form of National University. In that context one could see a coherent pattern of development within the whole of the public sector whereby the Open University does act as a sort of national bank of course material for a wide variety of academic areas. At the same time you could expect that the post-experience strand in the Open University's development will also be moving forward and that in a wide variety of professions, not just teaching profession, the OU will come to be seen as one of the principal means by which one can update one's qualifications or change one's career. If you put the two together, you may see such materials being used for similar updating or career change courses in residential institutions of higher education. You could then imagine for the Open University, on the basis of what has been achieved so far, an important place in a much more coherent pattern of public sector higher education in this country than we have seen hitherto.

Education And Inservice Training For Teachers in Yugoslavia

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The Preparation of Teachers for Primary Schools in Yugoslavia

Immediately following World War II, teachers for the primary schools of the first cycle (classes 1-4, ages 7-11) pursued a four year course, after eight years of elementary education, at Teachers Normal Schools. Later this course, which stressed pedagogical and psychological content and extensive practice teaching, was extended to five years. Teachers in the second cycle (classes 5-8, ages 11-15) were usually educated in the Higher Schools of Pedagogy, which they entered after having earned the diploma of the Teachers Normal School or the *baccalaureat* in general secondary education. The emphasis in the Higher Schools of Pedagogy was on training in the subject matter, although psycho-pedagogical content and practice teaching were also included. By 1955 it had become evident that the training received in the Teachers Normal Schools did not provide a satisfactory background for effective, professional teaching and, as a result, some Republics (Croatia and Slovenia) decided, in the 1958 Reform, to replace the Normal Schools with Pedagogical Academies which would function at the level of higher education. This enhancement of the training of first cycle teachers has been followed in all the other Republics with the exception of Serbia where it was not legally carried out until 1971. The Pedagogical Academies, which offer a two year course, emphasize the psycho-pedagogical elements and practice teaching necessary for the first cycle, but the study of aspects of sociology, philosophy and ethics is included as well. There is an emphasis on the methods and techniques of teaching, including the construction of cognitive tests, intelligence tests, examinations of personality, and aptitude tests.

The Preparation of Teachers for Secondary Education

In the first years after the war, the system of secondary education was not unified and teachers at this level were not at all uniformly qualified. This situation was rectified in a few years with the prescription of standards of professional qualifications for teachers in all secondary schools. According to these standards, teachers of technical and professional secondary education should have diplomas from the university or other institutions of higher education. Art and music teachers are trained in Academies for these subjects and physical education teachers receive their training from the Faculties of Physical Culture. As there are still not enough teachers to meet the demand, in some of the Republics teachers are trained in the Higher Schools of Pedagogy, which will, in all likelihood, gradually cease to exist. Because training in technical education has been introduced into the primary as well as the general secondary school, there is a great need to find solutions for the training of teachers in this field. Many are now educated in the High School of Industrial Pedagogy which was established in Rjeka to provide a four year course for teachers of secondary technical education. This school provides both the theoretical background and the practical skills necessary for effective teaching in this field.

It should be noted that in the majority of the institutions that provide education for teachers of the secondary level, for a long time pedagogical courses were not included in the curriculum. This failure has unfavorably affected the practice of teaching, as well as the efforts to modernize it and make it more efficient. The educational authorities at this time are making efforts to introduce psycho-pedagogical training and teaching methods into all the facilities for the training of secondary school teachers.

Efforts Toward Improvement in the Teacher Education System

The development of Pedagogical Academies for the enhancement of the training of primary teachers for the first cycle has already been mentioned. Some efforts are also being made for the improvement of the education of teachers for the second cycle of the elementary schools, because the training in the Higher Schools of Pedagogy has been demonstrated to be insufficient for the practice of effective teaching at the second cycle level. Consequently, it has been decided to raise the training of this category of teachers to the level of higher education. In some Republics, such as Serbia, it was agreed that a major portion of this training would be transferred to the universities which have, as a result, introduced some psycho-pedagogical courses for students who, in their final year at the university, decide to prepare for a teaching career. The universities in Serbia have generally accepted this new function and some supplementary courses have been organized for the students who have chosen to become teachers of the second cycle. This problem is currently under review in the other Republics as well. The number of graduates from the faculties of philosophy, philology, natural sciences and mathematics who teach in the second cycle is slowly growing, especially in the cities, but also in the smaller towns as well. Of course, in the less developed parts of the country, the Higher Schools of Pedagogy continue to train the teachers of subjects for which there is a great scarcity such as physics, chemistry, mathematics and foreign languages. Teachers with their diplomas from the Higher Schools of Pedagogy have the possibility of continuing their studies and obtaining higher qualifications at the university. While undertaking these additional courses, their teaching loads are reduced.

The enhancement of the level of training of teachers for both cycles through the development of Pedagogical Academies and university courses will result in the raising of the professional requirements for teaching, which is indispensable for the improvement of teaching. Likewise, the introduction of mandatory psycho-pedagogical courses for teachers of the technical and general secondary level will also have a salutary effect on the education profession. This element may be provided either during the normal course of studies or else in supplementary courses taken, after receiving the diploma, when the student decides he wishes to enter the teaching profession. The relating of universities to the training of teachers offers two advantages. On the one hand, the university will be capable of exercising a more direct influence on the process of innovation in the practice of teaching and, on the other hand, the problems of education and its improvement will become a part of the academic milieu.

Inservice Education of Teachers

The necessity for inservice education for primary and secondary school teachers has been recognized for a long time. In the schools, "working groups" of teachers have been formed either within each school or on the basis of the school district or *commune*. These groups discuss educational problems, including the organization of teaching and the utilization of textbooks, audio-visual aids and other teaching equipment. This exchange of educational experiences can be useful and fruitful, but it cannot meet all the needs, increasingly more complex, imposed by the requirement to improve the quality of teaching. Considerable assistance has been made available to teachers by the scientific and professional societies of chemists, mathematicians, physicists, historians, language teachers and the like. These professional societies bring together the teachers of the same discipline in each Republic and coordinate their work at a national level. They provide useful initiatives toward improving the quality of classroom teaching through the diffusion of new knowledge by means of conferences, journals and other materials for teachers, competitive programs and "olympiads" for students, and other similar programs. The leadership and support of these programs is largely in the hands of professors from the universities. Some professional organizations also exist, mainly in the larger cities, which organize meetings, conferences and other arrangements whereby ideas and techniques in the field of education may be exchanged. However, the effectiveness of these "Institutes for the Promotion of Teaching" is limited due to their lack of funds. Recently, there have been efforts to establish a new system of inservice education which would function at a higher level. In the construction of such a system, it is necessary to take into account the positive experiences achieved up to now by the "working groups" in the schools, the valuable contributions made by the professional and scientific societies, as well as the efforts of the "Institutes for Pedagogical Research and for the Promotion of the Teaching Profession."

The interest of the school in the improvement of the teaching staff, as well as that of the teachers themselves, is greater today than ever before. The new system of school finance, based on the principle of self-support, has placed each school in a new financial situation. The school can exercise a more important influence on the construction and functioning of the system of inservice education because it can allocate a portion of its resources toward this end, or else it can combine its means with others of the school district for this purpose.

The relating of the university to the concept of and activities involved in the continuing education of teachers is based on the idea of bringing into a closer relationship the preactice of teaching and the theoretical developments in each discipline. It is for this reason that the Assembly of the Socialist Republic of Serbia passed a *Recommendation* calling for the participation of the university faculties in the continuing education of teachers. At the first level of this system is the preparation of the secondary school teachers for a professional examination which is taken in front of a commission designated by the faculties. The teacher requests, from the appropriate commission, instruction and assistance for preparation for the test. As a general rule, the professors under whom the teacher pursued his studies and passed his examinations assist him with the theoretical aspects of the test; the teacher then selects the theme of the dissertation which he will develop and defend before the commission. The second level of the system, which is currently being developed, consists of some refresher courses which will permit the teachers to become familiar with the innovations in their disciplines. There is an effort to organize these courses, in cooperation with the scientific and professional societies, so that each teacher may advance during a given period, five years for example, to a position where he is ready to undertake formal, full-time course work for a period of two or three months. The third level would consist of the possibility of earning a masters degree through inservice work. Only the most capable graduates, both in their studies and in their teaching performance, would be given this opportunity to deepen their understanding of the methods involved in the teaching of their subject. This would ensure that innovations in education in the university would be transmitted into the schools and that the innovative process itself would become the preoccupation of the teachers, particularly the most capable and best educated ones.

In the faculties of philosophy, philogy and natural sciences and mathematics, *Inservice Education Centers* have been formed to coordinate all the activities of the faculty concerned with the upgrading of teachers. For example, the *Inservice Education Center* of the Faculty of Natural Sciences and Mathematics at the University of Belgrade fulfills this function and since it deals with every department in the faculty, each department delegates three representatives to the Center's Council. The Center establishes contact with the schools and school districts and develops the inservice programs for all levels and topics in the general field of the natural sciences and mathematics. Suggestions from the schools are utilized in the development of the programs, but the primary responsibility for them is given to the "science groups" of the Faculty which select the professors who will direct the courses, the practical and experimental exercises, oversee laboratory work, and so on. Since there is a chair for psycho-pedagogy and several in educational methodology in the Faculty, it is possible to arrange for the upgrading of teaching in physics, chemistry, biology and mathematics. The organization of work in a faculty in this manner has several advantages. Because the Center is an integral part of the faculty and all inservice work is done within it, there is every opportunity to organize the program in a rational and efficient manner and for proper evaluation. The intellectual level of the courses is maintained through association with the university and the teaching profession is directly influenced by developments within the university. The teachers involved in the programs have the opportunity to renew contact with the professors under whom they studied and passed their examinations, to work in laboratories and shops which are better equipped than those of their schools, and to utilize the richer libraries of the university. It should be added that the university is also becoming increasingly available to students from the Higher Schools of Pedagogy who wish to pursue part-time courses in order to obtain higher qualifications.

The organization of continuing education has received considerable attention in Yugoslavia. Research has been carried out on various models toward the goal of developing programs to enable teachers to be effectively upgraded in the shortest amount of time. In developing these programs, the faculties have received a great deal of assistance from the "Institutes for the Promotion of Teaching" in the primary and secondary schools and the scientific and professional societies. The latter have been particularly helpful in the development of the masters degree programs, especially with respect to the organization of research by secondary school teachers of science and mathematics. All these activities must be considered in the general context of all the activities of the faculty which has, as a basic underlying purpose, the education of its full-time students and the conduct of research. The participation of the faculty in the upgrading of teachers is, however, a *complementary* activity of great importance, not only for professional education in Yugoslavia, but also for the development of the faculty.

ICET NEWS

The 1972 World Assembly

The 1972 World Assembly, held in London, England, July 25-28, attracted more than 300 teacher educators from a wide range of countries. Apendix I lists the officially registered participants. Several important decisions were made at the business sessions of the Council, including the election of new Officers and Board Members, the approval of amendments to the ICET Constitution and the approval of conference resolutions. The Officers and Board Members are listed on the inside front cover. The Council recorded a vote of thanks for the fine record of service of the previous Officers and for the departing Executive Committee Members: Bhunthin Attagara, Thailand; S.N. Mukerji, India; and R. Borge Svensson, Sweden. Several constitutional amendments were passed which provide for structural changes in the Council designed to make the organization more responsive to the needs and desires of regional and national teacher education organizations. A Board of Directors, primarily composed of representatives from regional and national organizations, was established in place of the previous Executive Committee. The Board has 17 members, also listed on the inside front cover, who were elected in London to terms varying from one to three years. A smaller *Executive Committee* was created to carry out the business of the Board between meetings. It was also decided that regional and national organizations will have five votes, institutional members, three votes, and individual members, one vote at all future World Assemblies. The ICET Constitution, as amended in London, is printed in Appendix II. A number of principles and directions for the future policies of ICET were agreed upon, after considerable discussion, and passed on to the Board of Directors. Two conference resolutions were passed by the Council:

> *Be it resolved: Teacher educators in all countries should be encouraged to work cooperatively with teachers and their organizations, the community, state and federal agencies, school administrators, college faculties, students, and other appropriate groups in developing teacher education programs.*
>
> *Be it resolved: The International Council on Education for Teaching shall urge governments to recognize the importance of teacher education by providing the financial as well as other support necessary to ensure that the preparation of teachers may be at a level equal to that of other professions.*

Generous financial and technical assistance for the conference was made available by UNESCO, an organization with which the Council looks forward to fruitfully cooperating in the years ahead. The host institutions, the University of London, the Institute of Education, and the Association of Teachers in Colleges and Department of Education provided excellent conference facilities and hosted the participants at two receptions. In addition, the American Association of Colleges for Teacher Education provided financial and administrative support and considerable assistance was made available by nine AACTE member institutions which are listed on the inside back cover.

The 1973 ICET World Assembly

ICET will hold its 1973 World Assembly in Nairobi, Kenya, July 24-27, on the general theme, "Teacher Education for Development." Although some attention will be given to the complexity of the concept of "development," most of the emphasis will be placed on developing and implementing effective *strategies* by which the training of teachers can be related most efficaciously to the development process. The role of *in-service education* has already been identified as a key area by the ICET Program Committee, whose Chairman is Stanley Hewett, General Secretary, ATCDE.

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Frank H. Klassen, ICET Executive Director, will meet with the Committee in November in Nairobi. Following the meeting, Dr. Klassen will travel to Paris to meet with UNESCO officials regarding cooperation between UNESCO and ICET. The possibility of charter flights to Nairobi from London and New York is being investigated by the ICET staff.

Appendix I

1972 ICET WORLD ASSEMBLY

July 25-28, London, England

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Appendix II

Constitution Of The International Council On Education For Teaching
as amended by the ICET World Assembly
July 28, 1972

The organization shall be called "The International Council on Education for Teaching," hereinafter referred to as ICET. ICET is an international association of organizations, institutions, and individuals concerned with the preparation of teachers.

ARTICLE II - Aims

The objectives of the organization shall be:

1. To define and explore ideas and principles underlying the education of those preparing to teach and the continued education of teachers in service.

2. To promote opportunities for consultation and collaboration between organizations and persons engaged in teacher education in different countries and to help in the formation of national organizations of teacher educators or institutions of teacher education.

ARTICLE III - Membership

There shall be three categories of members:

1. National and regional organizations whose membership includes persons or institutions engaged in education for teaching.

2. Institutions wholly or partly engaged in education for teaching.

3. Individuals concerned with education for teaching.

ARTICLE IV - World Assembly

There shall be a World Assembly consisting of representatives of organizations and institutions and of individual members. Only representatives and individual members in good standing shall be eligible to vote. The World Assembly shall be convened ordinarily once a year. Decisions shall be arrived at by a simple majority of members present and voting. Voting shall be on the following basis:

a) Individual members - one vote
b) Institutions - three votes
c) National or regional organizations - five votes

ARTICLE V - Officers

The officers of ICET shall be a president and two vice-presidents who shall be elected by the World Assembly for terms of three years. No two elected officers shall come from the same continent. No officer my be re-elected to the same office for consecutive terms. Nominations for election may be submitted by either national or regional organizations, institutions, or individual members. Nominations from individuals or institutions must be endorsed by at least fifteen other individual members in good standing. Nominations must be submitted to the Executive Director at least four months prior to the meeting of the World Assembly.

1. The duties of the president shall be:

    a) to preside at meetings of the World Assembly, Board of Directors and other meetings as necessary.

    b) to represent ICET in such ways as authorized by the World Assembly or Board of Directors.

2. In the absence of the president, a vice-president shall perform the duties of the president. In the absence of any officer, a chairman shall be elected by majority vote of members present at the meeting.

ARTICLE VI - Board of Directors

1. There shall be a Board of Directors constituted as follows:

   a) President
   b) Two Vice-Presidents
   c) Immediate Past President
   d) Executive Director
   e) Not more than 16 other members

2. Nominations for election to the Board of Directors may be submitted by either national or regional organizations, institutions, or individual members. Nominations from individuals or institutions must be endorsed by at least fifteen other individual members in good standing. Nominations must be submitted to the Executive Director at least four months prior to the meeting of the World Assembly.

3. Board members, other than the officers, immediate past president, and the Executive Director shall be elected by the World Assembly and serve terms of three years and shall represent

   a) national or regional organizations engaged in teacher education
   b) members at large

4. It shall be the duty of the Board of Directors to conduct the business of ICET between meetings of the World Assembly. The Board of Directors may conduct its business by majority vote by mail when necessary. Each member of the Board of Directors shall have one vote.

5. The Board of Directors shall appoint an Executive Director and such additional staff members as may be deemed necessary.

6. The Board of Directors may appoint persons to fill vacancies on the Board between World Assemblies, however such vacancies may occur.

ARTICLE VII - Executive Committee

1. There shall be an Executive Committee of the Board of Directors consisting of

   a) President
   b) Two Vice-Presidents
   c) One member of the Board of Directors elected by a simple majority of the Board
   d) Immediate Past President
   e) Executive Director

2. The Executive Committee may act on behalf of the Board of Directors when so authorized by the Board of Directors.

ARTICLE VIII - Board of Trustees

There shall be a Board of Trustees consisting of persons appointed by the Board of Directors. The members of the Board of Trustees shall be persons who have demonstrated a concern for teacher education but need not necessarily be members of ICET.

ARTICLE IX - Administration

1. The Executive Director shall serve as the Chief Administrative Officer of the secretariat and shall perform the functions of the secretary-treasurer.

2. The Executive Director shall be responsible for the implementation of programs and for such other duties as authorized by the Board of Directors.

ARTICLE X - Amendments to the Constitution

1. This Constitution may be amended by majority vote of the members in good standing present at any meeting of the World Assembly, due notice of the proposed amendment having been given.

ARTICLE XI - Affiliation

1. ICET may cooperate with such other international and national organizations, as authorized by the Board of Directors or the World Assembly.

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